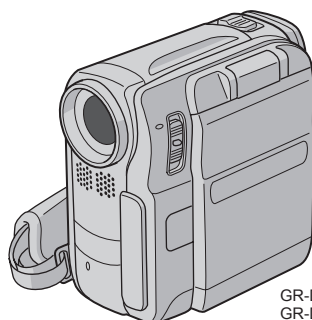


JVC

SERVICE MANUAL

DIGITAL VIDEO CAMERA

**GR-DX67EK, GR-DX77EK, GR-DX77ER,
GR-DX77EX, GR-DX77EY, GR-DX77EZ,
GR-DX78EX, GR-DX97EK, GR-DX97EX,
GR-DX97EY, GR-DX97EZ**



Mini **DV** PAL
DSC
DIGITAL
STILL CAMERA

GR-DX67EK[M4D3S6], GR-DX77EK, GR-DX77ER, GR-DX77EX, GR-DX77EY, GR-DX77EZ,
GR-DX78EX[M4D3S7], GR-DX97EK, GR-DX97EX, GR-DX97EY, GR-DX97EZ[M4D3M7]

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700(MECHANISM ASSEMBLY).

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SPECIFICATION *(The specifications shown pertain specifically to the model GR-DX67EK, GR-DX77EK, GR-DX97EK)*

Camcorder

For General

Power supply

DC 11 V (Using AC Adapter)

DC 7.2 V (Using battery pack)

Power consumption

Approx. 3.1 W (3.8W*) (LCD monitor off, viewfinder on)

Approx. 3.9 W (4.6W*) (LCD monitor on, viewfinder off)

* Using LED Light

Dimensions (W x H x D)

52 mm x 93 mm x 94 mm

(with the LCD monitor closed and the viewfinder pushed back in)

Weight

Approx. 430 g

(without cassette and battery)

Approx. 530 g

(incl. cassette and battery)

Operating temperature

0°C to 40°C

Operating humidity

35% to 80%

Storage temperature

-20°C to 50°C

Pickup

1/6" CCD

Lens

F 1.2, f = 2.6 mm to 31.2 mm, 12:1 power zoom lens

Filter diameter

ø27 mm

LCD monitor

3.0"/2.5*** diagonally measured, LCD panel/TFT active matrix system

* GR-DX97/57/48

** GR-DX77/67/37/28/27

Viewfinder

Electronic viewfinder with 0.3" colour LCD

Speaker

Monaural

LED Light

Effective distance: 1.5 m

For Digital Video Camera

Format

DV format (SD mode)

Signal format

PAL standard

Recording/Playback format

Video: Digital component recording

Audio: PCM digital recording, 32 kHz 4-channel (12-BIT), 48 kHz 2-channel (16-BIT)

Cassette

Mini DV cassette

Tape speed

SP: 18.8 mm/s, LP: 12.5 mm/s

Maximum recording time (using 80 min. cassette)

SP: 80 min., LP: 120 min.

For Digital Still Camera (GR-DX97/77/67 only)

Storage media

SD Memory Card/MultiMediaCard

Compression system

Still image: JPEG (compatible)

Moving image: MPEG4 (compatible)

File size

Still image:

2 modes (1024 x 768 pixels/640 x 480 pixels)

Moving image:

1 mode (160 x 120 pixels)

Picture quality

2 modes (FINE/STANDARD)

Approximate number of storable images

pg. 21

For Connectors

AV

S-Video input (GR-DX97/77/57/37 only):

Y: 0.8 V to 1.2 V (p-p), 75 Ω, analogue

C: 0.2 V to 0.4 V (p-p), 75 Ω, analogue

S-Video output:

Y: 1.0 V (p-p), 75 Ω, analogue

C: 0.29 V (p-p), 75 Ω, analogue

Video input (GR-DX97/77/57/37 only): 0.8 V to 1.2 V (p-p), 75 Ω, analogue

Video output: 1.0 V (p-p), 75 Ω, analogue

Audio input (GR-DX97/77/57/37 only): 300 mV (rms), 50 kΩ, analogue, stereo

Audio output: 300 mV (rms), 1 kΩ, analogue, stereo

Edit: ø3.5 mm, 2-pole

Microphone input

ø3.5 mm, stereo

DV

Input/output: 4-pin, IEEE 1394 compliant

* GR-DX97/77/57/37 only

USB (except GR-DX27)

5-pin

AC Adapter

Power requirement

AC 110 V to 240 V~, 50 Hz/60 Hz

Output

DC 11 V —, 1 A

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

SECTION 1 PRECAUTIONS

1.1 SAFTY PRECAUTIONS

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

1.1.1 Precautions during Servicing

- (1) Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.
- (2) Parts identified by the  symbol and shaded () parts are critical for safety. Replace only with specified part numbers.

NOTE :

Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

- (3) Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.
- (4) Use specified internal wiring. Note especially:
 - Wires covered with PVC tubing
 - Double insulated wires
 - High voltage leads
- (5) Use specified insulating materials for hazardous live parts.
Note especially:
 - Insulation Tape
 - PVC tubing
 - Spacers
 - Insulation sheets for transistors
 - Barrier
- (6) When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

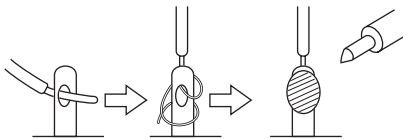


Fig.1-1-1

- (7) Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
- (8) Check that replaced wires do not contact sharp edged or pointed parts.
- (9) When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

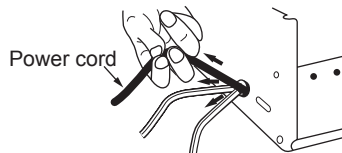


Fig.1-1-2

- (10) Also check areas surrounding repaired locations.
- (11) Products using cathode ray tubes (CRTs) In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray

emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

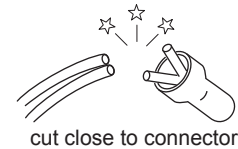
- (12) Crimp type wire connector In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

• **Connector part number** :E03830-001

• **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.

• **Replacement procedure**

- a) Remove the old connector by cutting the wires at a point close to the connector. Important : Do not reuse a connector (discard it).



cut close to connector

Fig.1-1-3

- b) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

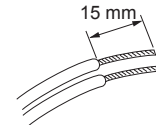


Fig.1-1-4

- c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

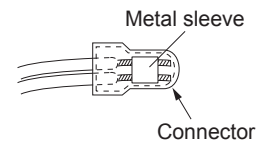


Fig.1-1-5

- d) As shown in Fig.1-1-6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

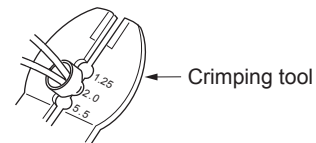


Fig.1-1-6

- e) Check the four points noted in Fig.1-1-7.

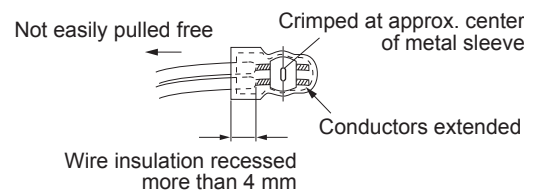


Fig.1-1-7

1.1.2 Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

(1) Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

(2) Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See Fig.1-1-11 below.

(3) Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See Fig.1-1-11 below.

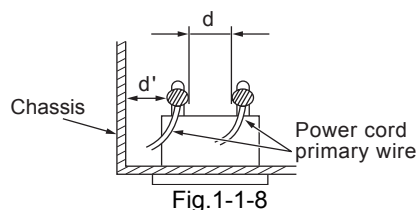


Fig.1-1-8

(4) Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON) Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig.1-1-9 and following Fig.1-1-12.

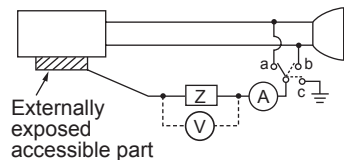
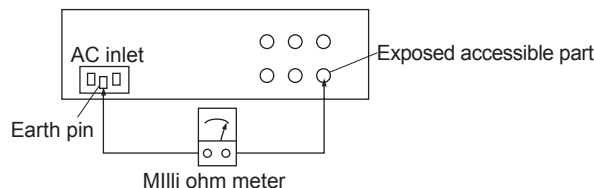


Fig.1-1-9

(5) Grounding (Class 1 model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.). Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See Fig.1-1-10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

Fig.1-1-10

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	$1 \text{ M}\Omega \leq R \leq 12 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V 200 to 240 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	$d \geq 4 \text{ mm}$ $d' \geq 8 \text{ mm}$ (Power cord) $d' \geq 6 \text{ mm}$ (Primary wire)

Fig.1-1-11

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ and $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Fig.1-1-12

NOTE :

These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

The following table indicate main different points between models GR-DX67EK, GR-DX77EK, GR-DX77ER, GR-DX77EX, GR-DX77EY, GR-DX77EZ, GR-DX78EX, GR-DX97EK, GR-DX97EX, GR-DX97EY and GR-DX97EZ.

MODEL	GR-DX67EK	GR-DX77EK	GR-DX77ER	GR-DX77EX	GR-DX77EY	GR-DX77EZ
LCD MONITOR	2.5INCH	2.5INCH	2.5INCH	2.5INCH	2.5INCH	2.5INCH
DV TERMINAL	YES(OUT)	YES(IN/OUT)	YES(IN/OUT)	YES(IN/OUT)	YES(IN/OUT)	YES(IN/OUT)
ANALOG INPUT	NO	YES	YES	YES	YES	YES
REMOTE CONTROL	RM-V720US	RM-V720US	RM-V720US	RM-V720US	RM-V720US	RM-V720US
BODY COLOR	Silver	Silver & Black	Silver & Black	Silver & Black	Silver & Black	Silver & Black
AC CORD	BS PULG	BS PULG	CEE PULG	CEE PULG	CEE PULG	CEE PULG

MODEL	GR-DX78EX	GR-DX97EK	GR-DX97EX	GR-DX97EY	GR-DX97EZ
LCD MONITOR	2.5INCH	3.0INCH	3.0INCH	3.0INCH	3.0INCH
DV TERMINAL	YES(IN/OUT)	YES(IN/OUT)	YES(IN/OUT)	YES(IN/OUT)	YES(IN/OUT)
ANALOG INPUT	YES	YES	YES	YES	YES
REMOTE CONTROL	RM-V719US	RM-V720US	RM-V720US	RM-V720US	RM-V720US
BODY COLOR	Silver & Black	Silver & Black	Silver & Black	Silver & Black	Silver & Black
AC CORD	CEE PULG	BS PULG	CEE PULG	CEE PULG	CEE PULG

SECTION 3 DISASSEMBLY

3.1 BEFORE ASSEMBLY AND DISASSEMBLY

3.1.1 Precautions

- Be sure to disconnect the power supply unit prior to mounting and soldering of parts.
- Prior to removing a component part that needs to disconnect its connector(s) and its screw(s), first disconnect the wire(s) from the connector(s), and then remove the screw(s).
- When connecting/disconnecting wires, pay enough attention not to damage the connectors.
- When inserting the flat wire to the connector, pay attention to the direction of the flat wire.
- Be careful in removing the parts to which some spacer or shield is attached for reinforcement or insulation.
- When replacing chip parts (especially IC parts), first remove the solder completely to prevent peeling of the pattern.
- Tighten screws properly during the procedures. Unless specified otherwise, tighten screws at a torque of 0.118N·m (1.2kgf·cm). However, 0.118N·m (1.2kgf·cm) is a value at the time of production. At the time of service, perform the procedure at a torque 10% less than 0.118N·m (1.2kgf·cm). (See "SERVICE NOTE" as for tightening torque.)

3.1.2 Destination of connectors

Two kinds of double-arrows in connection tables respectively show kinds of connector/wires.

↔ : Flat wire ↔ : Wire ↔ : Board to board (B-B)
 □ : The connector of the side to remove

CONN. No.	CONNECTOR					PIN No.
CN2a	MAIN	CN101	↔	MONI BW	CN761	40
CN2b	MAIN	CN103	↔	MINI BW	CN762	10

3.1.3 Disconnection of connectors (Wires)

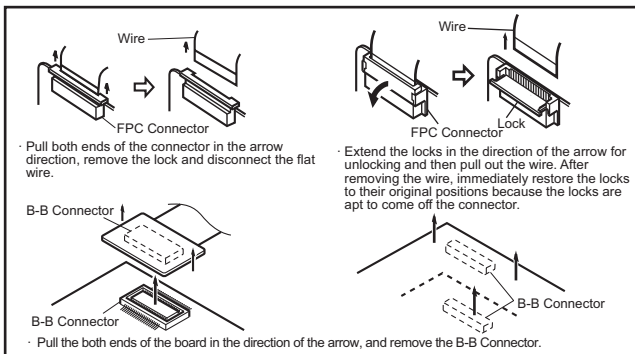


Fig.3-1-1

3.1.4 Tools required for disassembly and assembly

Torque driver YTU94088	Bit YTU94088-003	Tweezers P-895
Chip IC replacement jig PTS40844-2	Cleaning cloth KSMM-01	

Fig.3-1-2

• Torque driver

Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.

• Bit

This bit is slightly longer than those set in conventional torque drivers.

• Tweezers

To be used for removing and installing parts and wires.

• Chip IC replacement jig

To be used for replacement of IC.

• Cleaning cloth

Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

3.2 ASSEMBLY AND DISASSEMBLY OF MAIN PARTS

3.2.1 Assembly and disassembly

When reassembling, perform the step(s) in reverse order.

STEP No.	PART	Fig. No.	POINT	NOTE
[1]	TOP COVER ASSY	Fig.C1	4(S1a), 3(L1a),CN1a	-
[2]	UPPER ASSY (Inc. VF ASSY, SPEAKER/MONITOR)	Fig.C2-1	(S2a),2(S2b),3(S2c) 2(SD1a), L2,CN2a,b	-
[8]	E.VF UNIT(B/W)	Fig.C2-2	2(S8),L8,CN8a	NOTE 8
(*1)	(*2)	(*3)	(*4)	(*5)

(*1) Order of steps in Procedure

When reassembling, preform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

(*2) Part to be removed or installed.

(*3) Fig. No. showing Procedure or Part Location.

C = CABINET

(*4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

S = Screw

L = Lock, Release, Hook

SD = Solder

CN = Connector

[Example]

- 4 (S1a) = Remove 4 S1a screws.
- 3 (L1a) = Disengage 3 L1a hooks.
- 2 (SD1a) = Unsolder 2 SD1a points.
- CN1a = Remove a CN1a connector.

(*5) Adjustment information for installation.

3.2.2 ASSEMBLY/DISASSEMBLY OF CABINET PARTS AND ELECTRICAL PARTS

●Disassembly procedure

STEP No.	PART NAME	Fig. No.	POINT	NOTE
[1]	CASSETTE COVER ASSY	Fig.C1	GRIP BELT ASSY,2(S1),HOOK(F)(S1),L1a,COVER(ADJ),4(S1),L1b	NOTE1
[2]	SIDE COVER(R)	Fig.C2	(S2a),(S2b),L2a,L2b	-
[3]	TOP COVER		2(S3),2(L3)	-
[4]	SIDE COVER(L)ASSY	Fig.C3	6(S4a),(S4b),(S4c),COVER(DV)ASSY JACK COVER ASSY	NOTE4a, b
[5]	UPPER CASE ASSY	Fig.C4	(S5),L5,COVER(JIG CON),4(S5),CN5	NOTE5
[6]	FRONT COVER ASSY	Fig.C5	5(S6),CN6	NOTE6
[7]	MIC ASSY		2(S7)	NOTE7
[8]	REAR COVER ASSY	Fig.C6	2(S8),3(L8),CN8	NOTE8
[9]	MONITOR BOARD	Fig.C7	2(S9),3(L9a),BKT(TOP)ASSY CN9a,b,6(S9),L9b,2(L9c)	NOTE9
[10]	SD BOARD ASSY	Fig.C8	CN10,(S10)	-
[11]	LOWER UNIT ASSY (INCLUDE VF ASSY/OP BLOCK ASSY)		CN11a,b,c,d,e,3(S11)	-
[12]	VF ASSY	Fig.C9	4(S12)	NOTE12a, b
[13]	OP BLOCK ASSY/CCD BOARD ASSY		(S13a),2(S13b),2(L13)	NOTE13
[14]	MAIN BOARD ASSY	Fig.C10	2(S14),2(L14a),SHIELD COVER CN14a,b,c,L14b	NOTE14
[15]	MDA BOARD ASSY	Fig.C11	CN15a,b,c,d,2(S15)	-
[16]	MECHANISM ASSY		(S16a),BKT(PRE-REC),3(S16b) BKT(MECHA)ASSY	NOTE16

NOTE1:

Before removing the CASSETTE COVER ASSEMBLY, remove the GRIP BELT ASSEMBLY.

NOTE4a:

During the procedure, be careful in handling the parts.

NOTE4b:

In attaching the SIDE COVER (L) ASSEMBLY, attach the COVER (JACK, DV) ASSEMBLY at the same time.

NOTE5:

In removing the UPPER CASE ASSEMBLY, be careful not to damage connectors.

NOTE6:

In attaching the FRONT COVER ASSEMBLY, be careful not to cut or damage wires.

NOTE7:

In attaching the MIC ASSEMBLY, be careful not to cut or damage wires.

NOTE8:

When attaching the REAR COVER ASSEMBLY, be careful about the position of switch.

NOTE9:

For the disassembly procedure of the MONITOR ASSEMBLY, see "3.2.3 DISASSEMBLY of [9] MONITOR ASSEMBLY"

NOTE12a:

Pull out the VF ASSEMBLY, and remove one screw (No.46).

NOTE12b:

For the disassembly procedure of the VF ASSEMBLY, see "3.2.4 DISASSMBLY of [12] VF ASSEMBLY"

NOTE13:

For the disassembly procedure of the OP BLOCK ASSEMBLY/CCD BOARD ASSEMBLY, see "3.2.5 DISASSEMBLY of [13] OP BLOCK ASSEMBLY/CCD BOARD ASSEMBLY"

NOTE14:

In removing the MAIN BOARD ASSEMBLY, remove the SPACER.

NOTE16:

Be careful in handling the parts.

●Destination of connectors

CN.NO.	CONNECTOR				PIN NO.
CN5	MAIN	CN115	⇔	SUB OPE UNIT	- 6
CN6	MAIN	CN111	⇔	MIC ASSY	- 4
CN8	MAIN	CN109	⇔	CAMERA OPE UNIT	- 13
CN9a	MAIN	CN104	⇔	MONITOR	CN7601 /CN7602 39/20, 20
CN9b	MAIN	CN108	⇔	POWER OPE UNIT	- 7
CN10	MAIN	CN114	⇔	SD	CN701 12
CN11a	MAIN	CN112	⇔	FRONT	CN401 12
CN11b	MAIN	CN107	⇔	OP BLOCK ASSY	- 28
CN11c	MAIN	CN102	⇔	CCD	CN5501 20
CN11d	MAIN	CN101	⇔	BATT. TERM.	- 21
CN11e	MAIN	CN113	⇔	VF FPC ASSY	- 22/20
CN14a	MAIN	CN106	⇔	SENSOR	- 16
CN14b	MAIN	CN103	⇔	MDA	CN305 30
CN14c	MAIN	CN110	⇔	HEAD	- 8
CN15a	MDA	CN301	⇔	CAPSTAN MOTOR	- 18
CN15b	MDA	CN302	⇔	DRUM MOTOR	- 11
CN15c	MDA	CN303	⇔	ROTARY ENCODER SW	- 6
CN15d	MDA	CN304	⇔	LOADING MOTOR	- 6

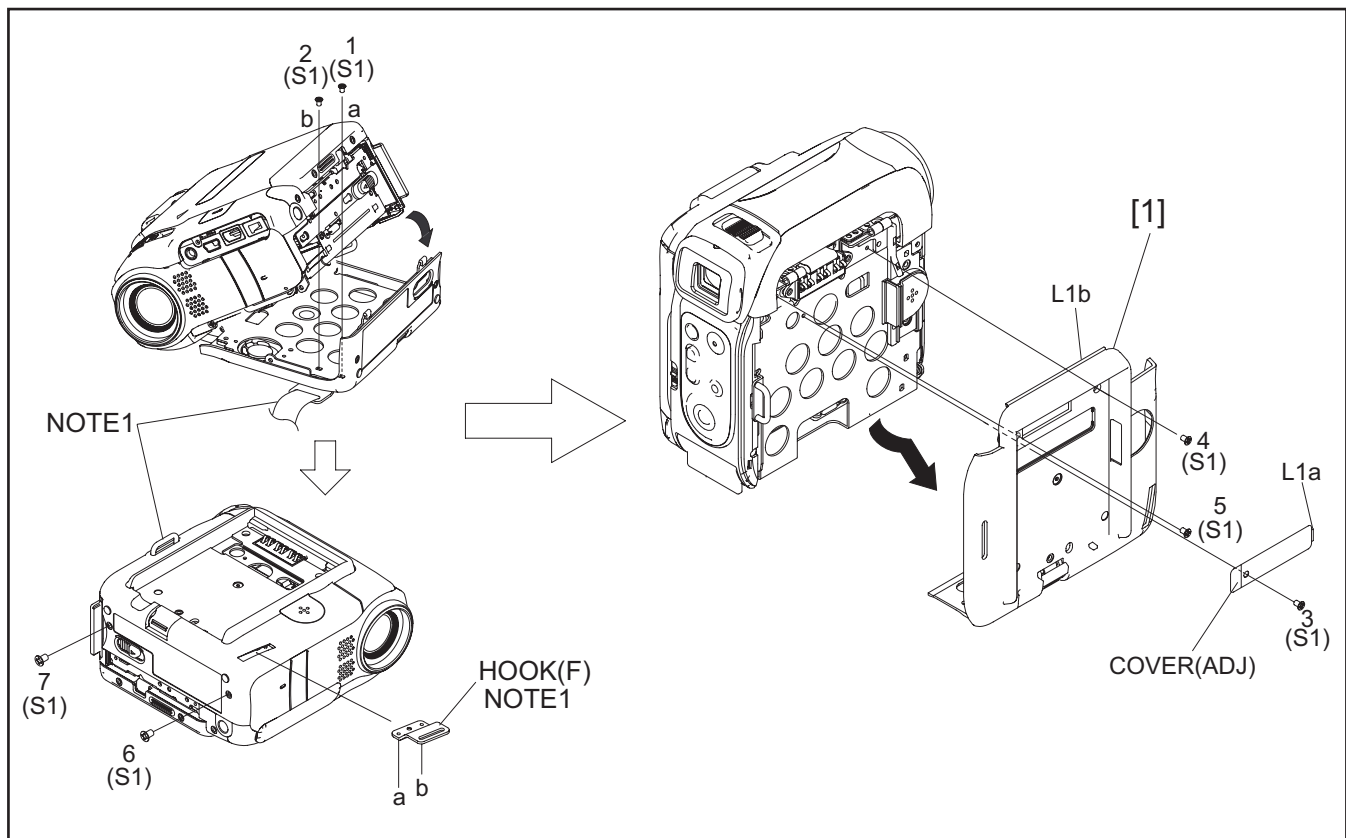


Fig.C1

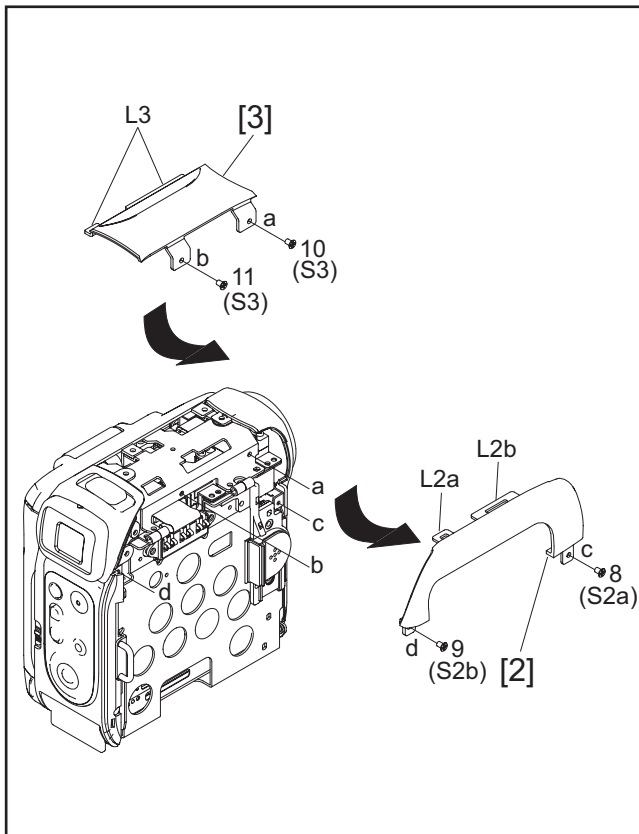


Fig.C2

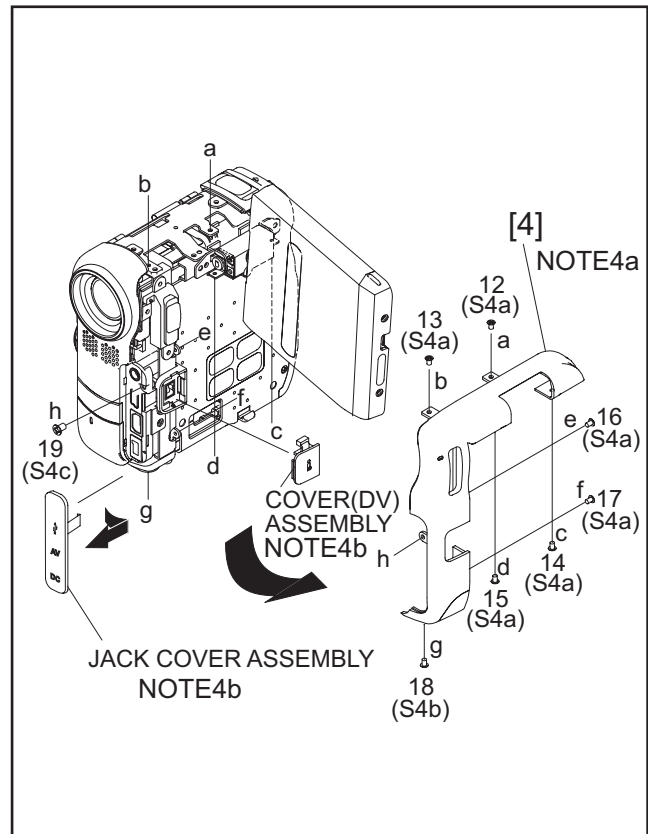


Fig.C3

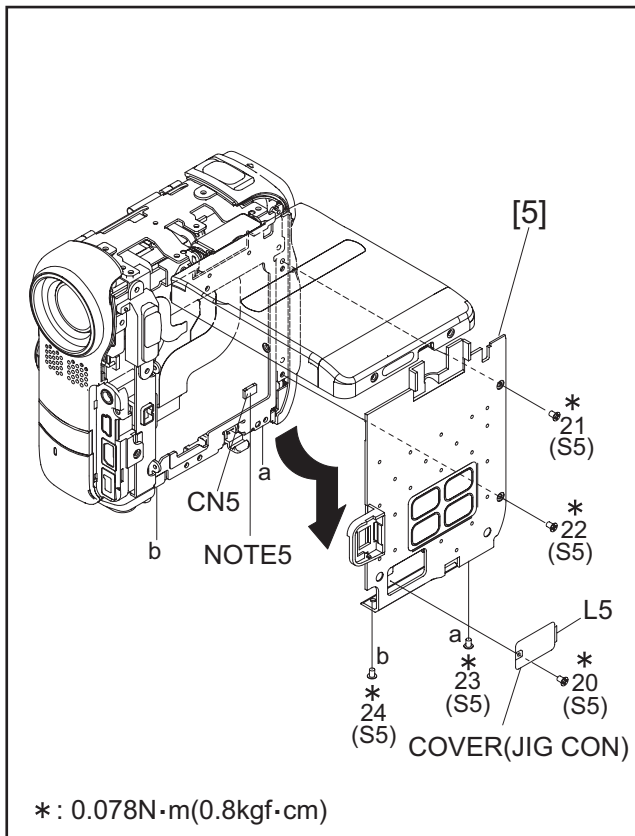


Fig.C4

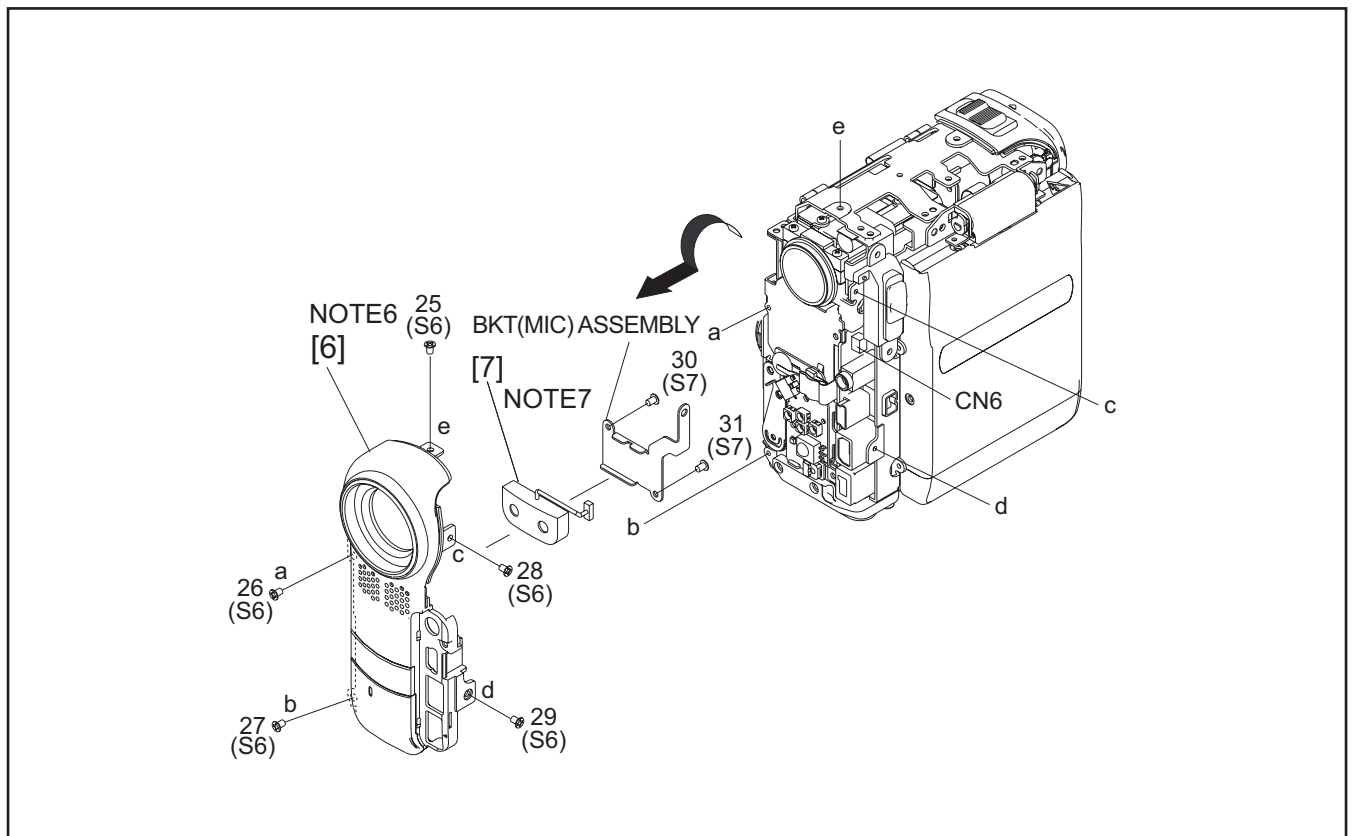


Fig.C5

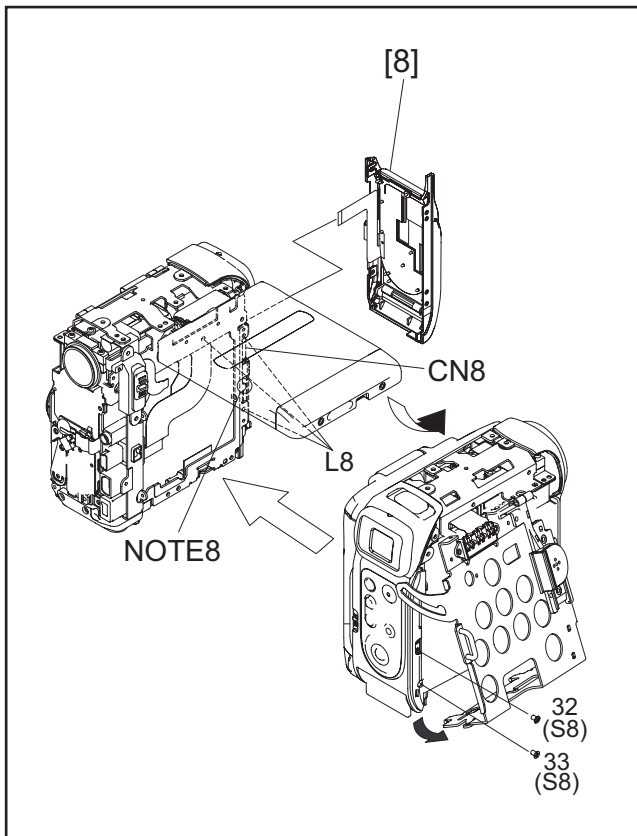


Fig.C6

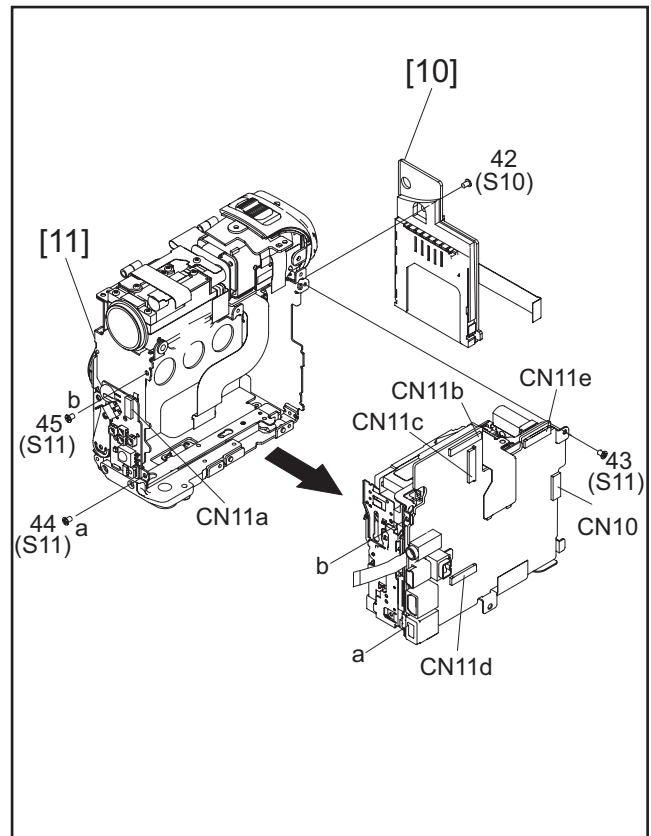


Fig.C8

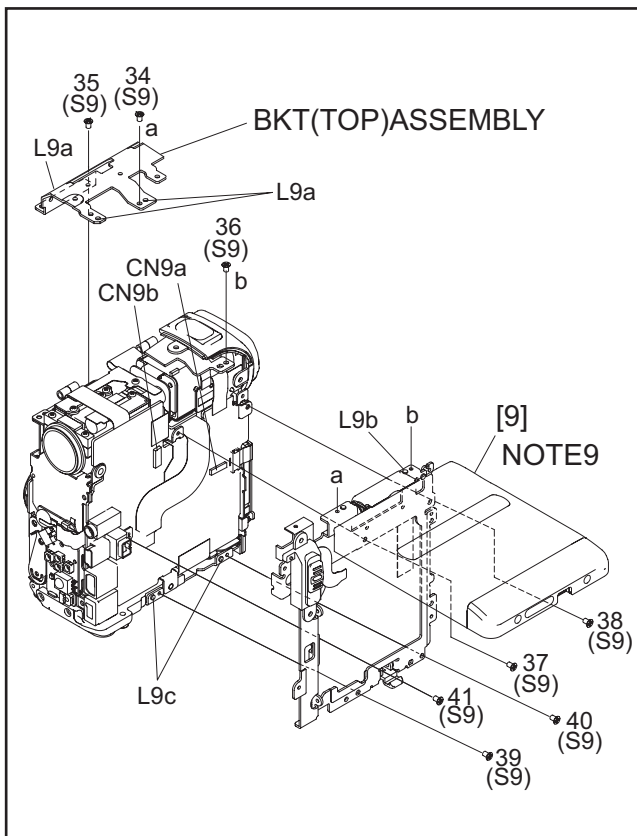


Fig.C7

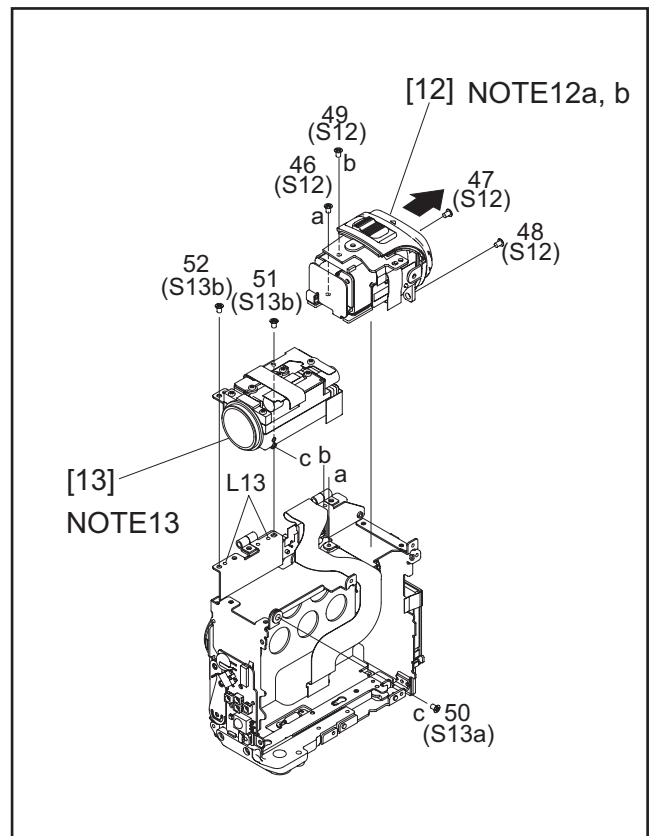


Fig.C9

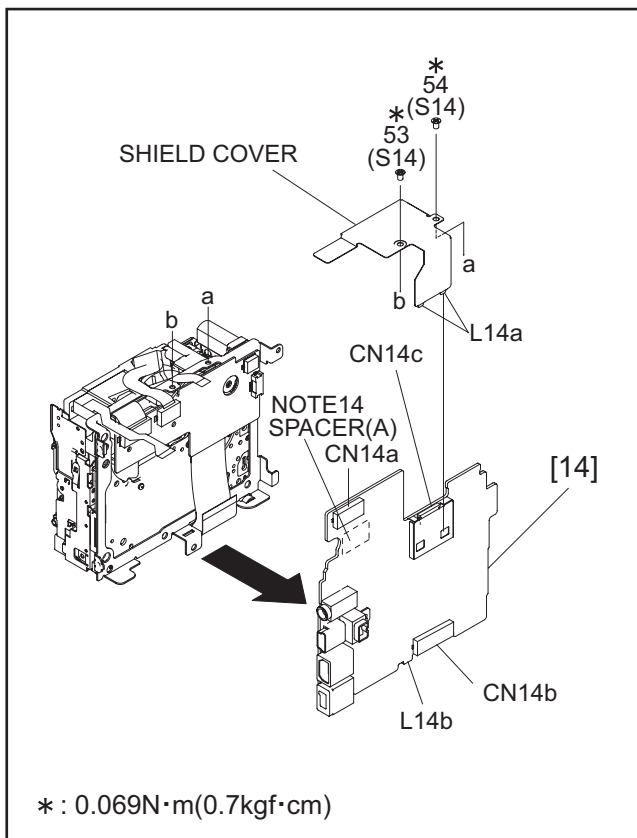


Fig.10

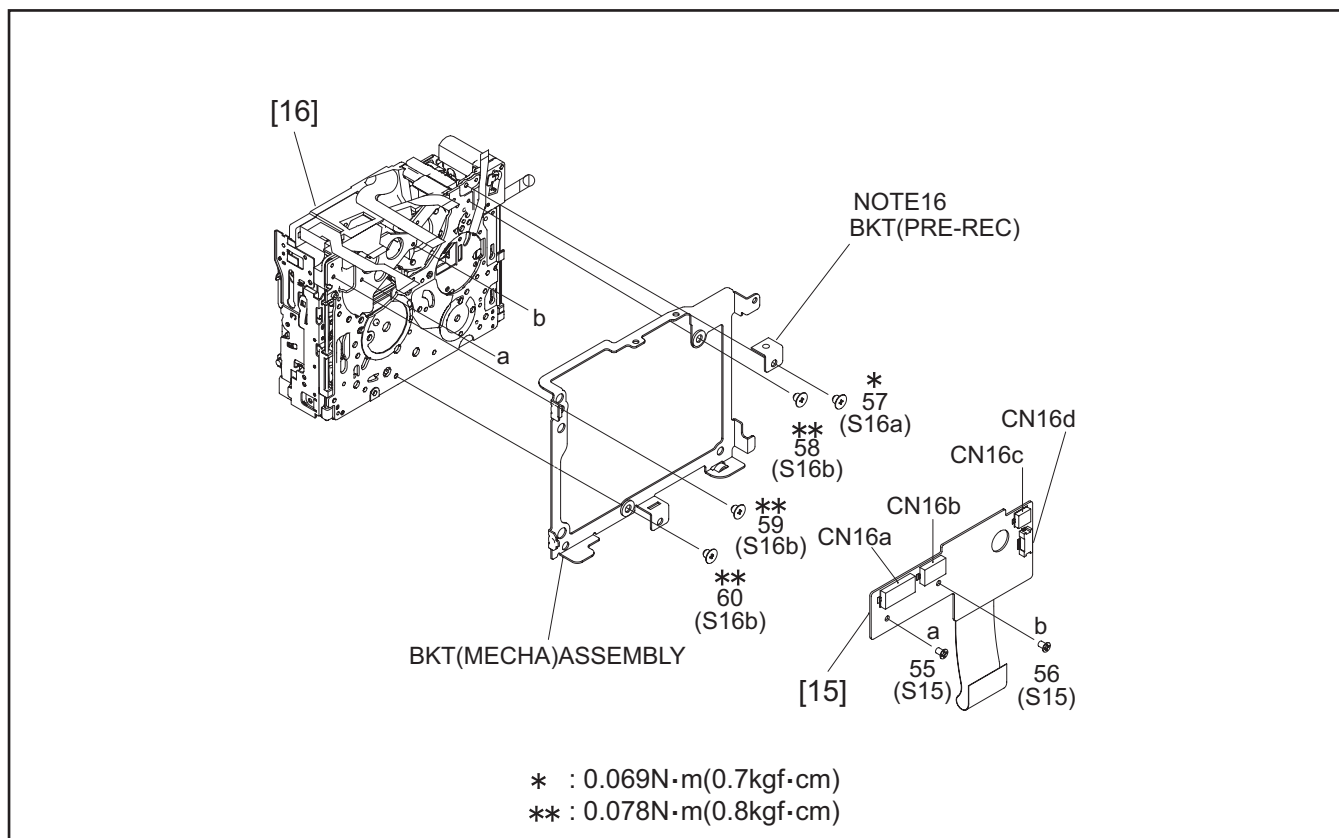


Fig.C11

3.2.3 DISASSEMBLY of [9] MONITOR ASSEMBLY

●CAUTIONS

- (1) During the procedure, be careful in handling the LCD MODULE, etc., especially not to damage or soil the monitor screen. If it is soiled with fingerprints, etc., gently clean it with chamois or the cleaning cloth.
- (2) Since the BACKLIGHT is soldered to the BOARD ASSEMBLY (SD9), the BACKLIGHT should not be separated from the BOARD ASSEMBLY except when replacing the BACKLIGHT.
- (3) Remove the POWER (OPE) UNIT if necessary.

●Disassembly

- (1) Remove the three screws (1-3) so that the FPC moves easily.
- (2) Remove the two screws (4 and 5), and remove the MONITOR ASSEMBLY from the FRAME (UP) ASSEMBLY.

- (3) While removing the five screws (6-10) in numerical order and disengaging the two hooks (L9a and L9b) in alphabetical order, remove the MONITOR COVER ASSY.
- (4) Remove the SWITCH BOARD from the MONITOR CASE.
- (5) Unlock the two connectors CN9a and CN9b, and raise and remove the HINGE UNIT ASSEMBLY.

NOTE9a:

During the procedure, be careful in handling the FPC ASSEMBLY.

- (6) Unlock one connector CN9c, and remove the FPC.
- (7) Remove one screw (11), and remove the MONITOR BOARD ASSEMBLY together with the BACKLIGHT.
- (8) Remove the LCD BRACKET (2).
- (9) Remove the LCD MODULE.
- (10) Remove the LCD BRACKET (1).

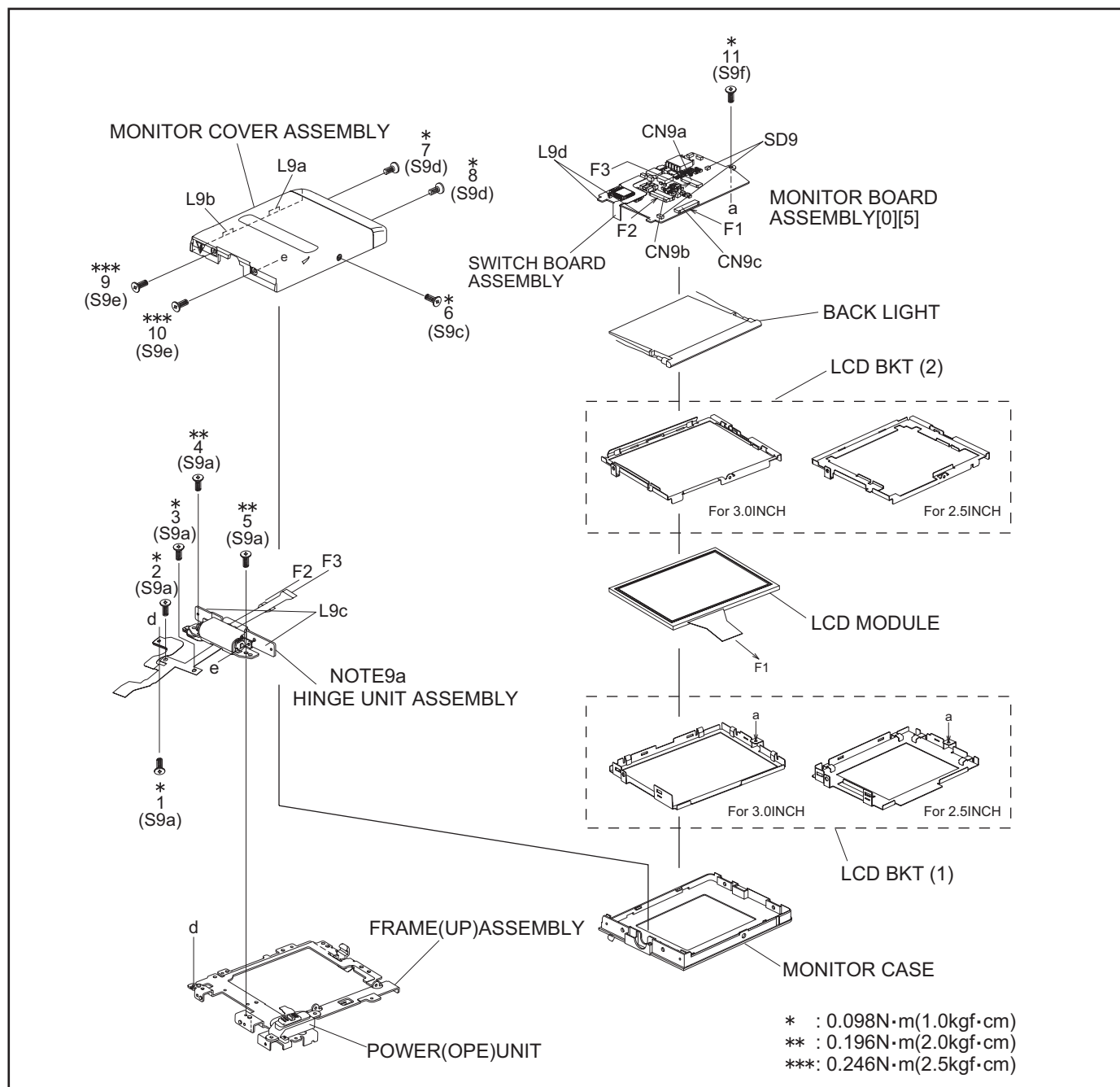


Fig.3-2-3

3.2.4 DISASSEMBLY of [12] VF ASSEMBLY

●Disassembly

- (1) Remove the EYE CUP.

NOTE12a:

After the EYE CUP is removed, be careful of handling the EYE CUP since the SHEET (LENS) is removed.

NOTE12b:

In attaching the EYE CUP, be careful of the attachment direction of the SHEET (LENS).

- (2) Remove the three screws (1-3) and remove the HOLDER (EYE).
- (3) Remove one screw (4) and remove the BRACKET (TOP2).
- (4) Remove the two screws (5 and 6), lift the VF COVER in a direction of arrow, and remove the VF COVER from the ZOOM UNIT.
- (5) Remove the FPC from one connector (CN12a), remove one screw (7), and remove the ZOOM UNIT.
- (6) Remove the two screws (8 and 9), and remove the BRACKET.

- (7) Remove the FPC attached to the GUIDE (OUTER) little by little so that the FPC moves easily, and remove the COVER (VF) from the GUIDE (OUTER).

NOTE12c:

Be careful enough not to cut or damage the removed FPC since the FPC is attached again.

NOTE12d:

Disassemble the COVER (VF) if necessary. In an attachment procedure, confirm that the LEVER (1) moves smoothly.

- (8) Remove the two screws (10 and 11), and remove the FRAME ASSEMBLY.
- (9) Remove the SPACER (A), and remove the FPC from one connector (CN12b).
- (10) Remove the two screws (12 and 13), and remove the VF BOARD ASSEMBLY.

NOTE12e:

Disassemble the FRAME ASSEMBLY if necessary. In an assembly procedure, be careful not to insert foreign materials inside the VF and not to soil the VF.

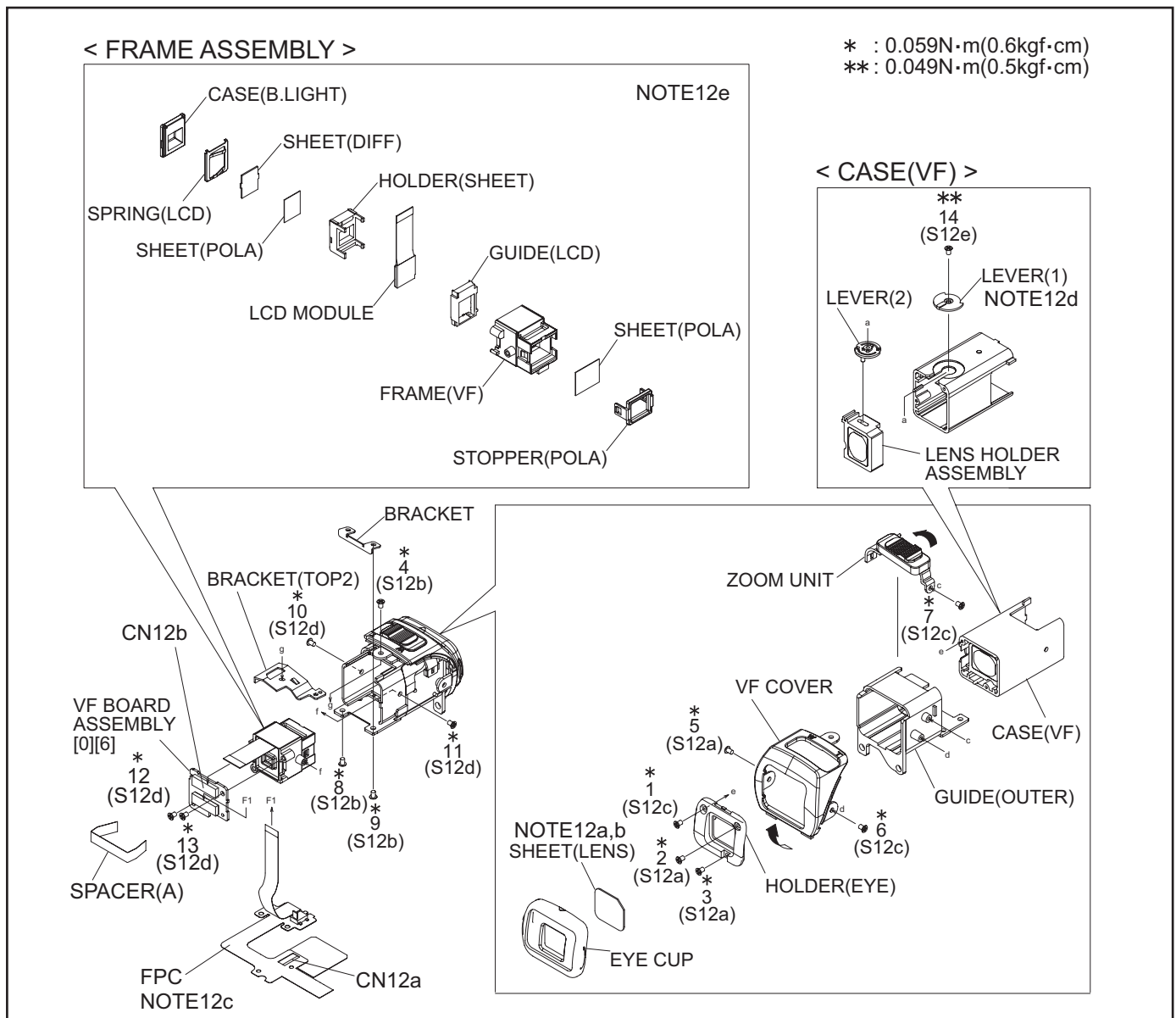


Fig.3-2-4

3.2.5 DISASSEMBLY of [13] OP BLOCK ASSEMBLY/CCD BOARD ASSEMBLY

●CAUTIONS

- (1) Be careful in handling the CCD image sensor, OP LPF, and lens etc., especially not to damage or soil their surface.
If it is soiled with fingerprints, etc., gently clean it with chamois or the cleaning cloth.
- (2) When the CCD image sensor is shipped from the factory, there are protection seals applied onto the transparent glass. Leave the protector as it is, and take it off just before assembling the CCD image sensor to the OP block.

●Disassembly

- (1) Remove the two screws (1 and 2), and remove the CCD BOARD ASSEMBLY together with CCD BASE ASSEMBLY.
- (2) Remove the LOW PASS FILTER HOLDER from the CCD BASE ASSEMBLY, and remove the MASK.

NOTE 13a:

Since the MASK is between the LOW PASS FILTER HOLDER and CCD IMAGE SENSOR, be careful in handling the MASK.

NOTE13b:

In removing the CCD IMAGE SENSOR, unsolder the fourteen soldered parts (SD13a), and remove the CCD BASE ASSEMBLY from the CCD BOARD ASSEMBLY.

In replacing the CCD IMAGE SENSOR, don't remove the CCD IMAGE SENSOR from the CCD BASE ASSEMBLY. Instead, replace the whole CCD BASE ASSEMBLY.

NOTE13c:

Since the OP LPF is inside the LOW PASS FILTER HOLDER and the OP LPF is attached to the LOW PASS FILTER HOLDER by using the SHEET, remove the OP LPF from the LOW PASS FILTER HOLDER if necessary.

In removing the OP LPF from the LOW PASS FILTER HOLDER, be careful not to damage the LOW PASS FILTER HOLDER, and remove the SHEET carefully if you want to use the same SHEET in attachment procedure.

NOTE13d:

In removing the OP LPF, be careful of the direction of its attachment. Since one side of the OP LPF is coated for the purpose of protection, attach the OP LPF so that the coated side faces the OP lens (a subject of photograph).

●Replacement of service repair parts

Service repair parts of the OP BLOCK ASSEMBLY are as follows.

When replacing the parts, be careful not to cut or damage the FPC, and not to damage the parts due to soldering (overheat).

- (1) FOCUS MOTOR
- (2) ZOOM MOTOR
- (3) IRIS MOTOR

NOTE 13e:

When replacing the FOCUS MOTOR or the ZOOM MOTOR, lift the FPC approx.1mm away from the jack in soldering the FPC (SD13b).

NOTE13f:

IRIS MOTOR contains the FPC ASSEMBLY and the SENSOR x2.

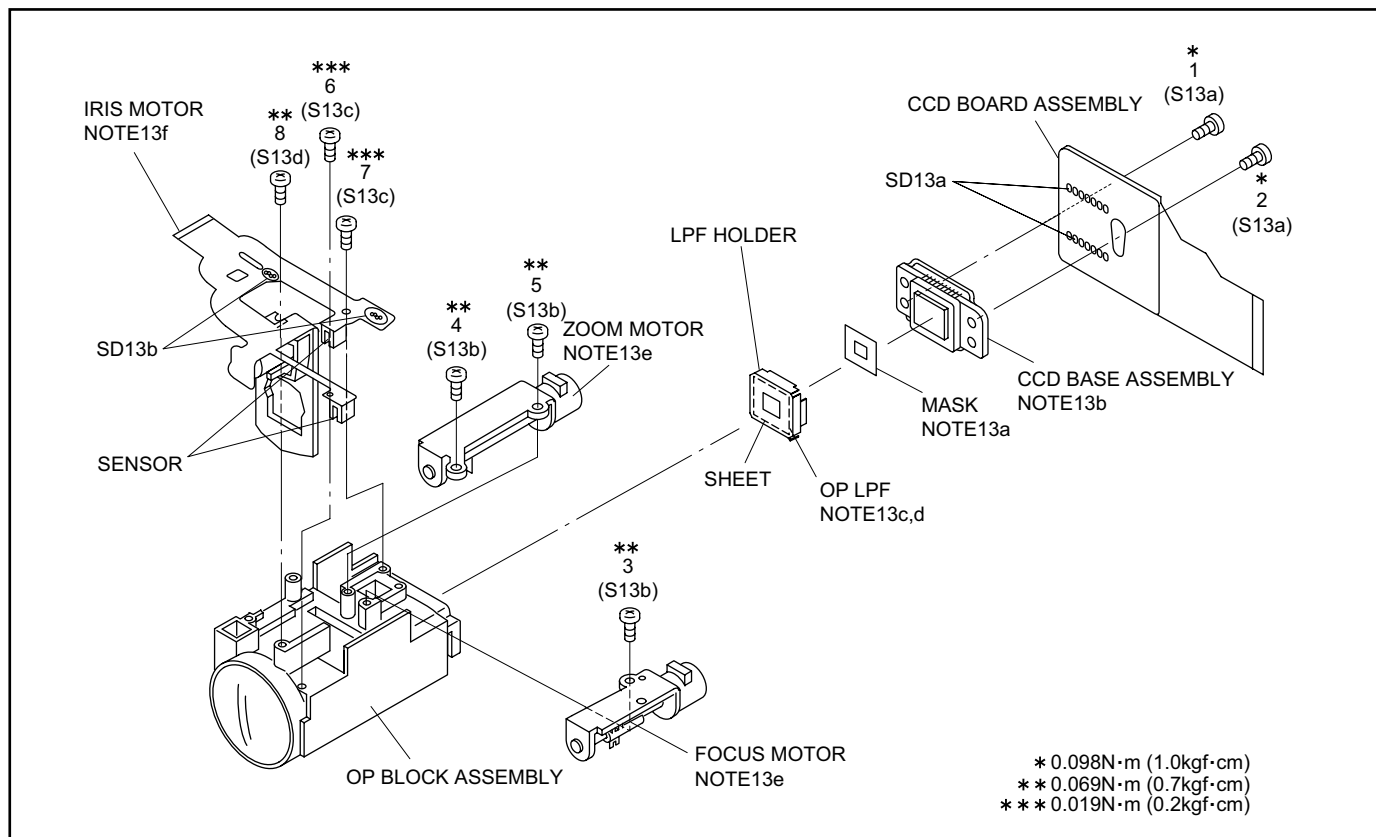


Fig.3-2-5

SECTION 4 ADJUSTMENT

4.1 PREPARATION

4.1.1 Precaution

Camera system and deck system of this model are specially adjusted by using PC.

However, if parts such as the following are replaced, an adjustment is required. The adjustment must be performed in a Service Center equipped with the concerned facilities.

- OP BLOCK ASSEMBLY
- EEP ROM (IC1005 of MAIN board)

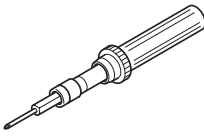
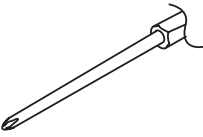
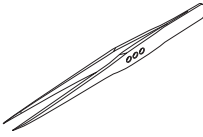
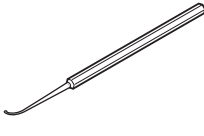
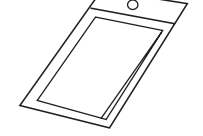
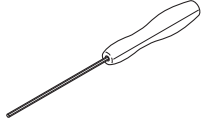
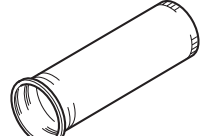
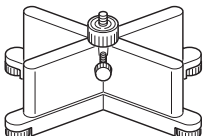
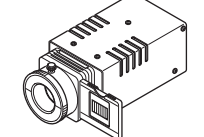
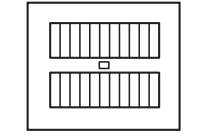
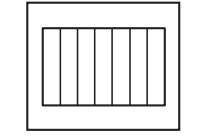
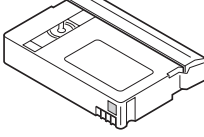
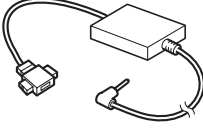
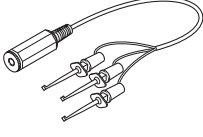
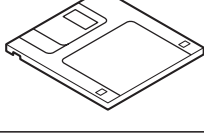
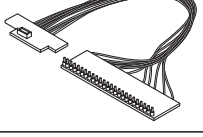
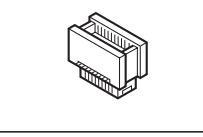
In the event of malfunction with electrical circuits, first find a defective portion with the aid of proper test instruments as shown in the following electrical adjustment procedure, and then commence necessary repair/ replacement/adjustment.

- In observing chip TP, use IC clips, etc. to avoid any stress. Prior to replacement of chip parts (especially IC), remove the solder completely to prevent peeling of the pattern.
- Use a patch cord if necessary. As for a patch cord, see the BOARD INTERCONNECTIONS.
- Since connectors are fragile, carefully handle them in disconnecting and connecting the FPC.

4.1.2 REQUIRED TEST EQUIPMENT

- Personal computer (for Windows)
- Color TV monitor
- Oscilloscope (dual-trace type, observable 100MHz or higher frequency). The one observable 300 MHz or higher frequency is recommended.
- Digital voltmeter
- DC power supply or AC adapter
- Frequency counter (with threshold level adjuster)

4.1.3 TOOLS REQUIRED FOR ADJUSTMENT

Torque Driver YTU94088	Bit YTU94088-003	Tweezers P-895
		
Chip IC Replacement Jig PTS40844-2	Cleaning Cloth KSM-01	Guide Driver (Hexagonal) D-770-1.27
		
INF Adjustment Lens YTU92001B	INF Adjustment Lens Holder YTU94087	Camera Stand YTU93079
		
Light box Assembly YTU93096A	Gray Scale Chart YTU94133A	Color Bar Chart YTU94133C
		
Alignment Tape MC-2	PC Cable QAM0099-005	Communication Cable YTU93107A
		
Service Support System YTU94057-80	Jig Connector Cable YTU93106C	Extension Connector YTU94145D-40
		

• Torque driver

Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.

• Bit

This bit is slightly longer than those set in conventional torque drivers.

• Tweezers

To be used for removing and installing parts and wires.

• Chip IC replacement jig

To be used for adjustment of the camera system.

• Cleaning cloth

Recommended the Cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

- **Guide driver (Hexagonal)**

To be used to turn the guide roller to adjustment of the linearity of playback envelope.

- **INF adjustment lens**

To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.

- **INF lens holder**

To be used together with the Camera stand for operating the Videocamera in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring. For the usage of the INF lens holder, refer to the Service Bulletin No. YA-SB-10035.

- **Camera stand**

To be used together with the INF adjustment lens holder. For the usage of the Camera stand, refer to the Service Bulletin No. YA-SB-10035.

- **Light box assembly**

To be used for adjustment of the camera system. For the usage of the Light box assembly, refer to the Service Bulletin No. YA-SB-10035.

- **Gray scale chart**

To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.

- **Color bar chart**

To be used for adjustment of the camera system. For the usage of the INF adjustment lens, refer to the Service Bulletin No. YA-SB-10035.

- **Alignment tape**

To be used for check and adjustment of interchangeability of the mechanism.

- **PC cable**

To be used to connect the Videocamera and a personal computer with each other when a personal computer issued for adjustment.

- **Communication cable**

Connect the Communication cable between the PC cable and Jig connector cable when performing a PC adjustment.

- **Service support system**

To be used for adjustment with a personal computer. Software can be downloaded also from JS-net.

- **Jig connector cable**

Connected to JIG CONNECTOR of the main board and used for electrical adjustment, etc.

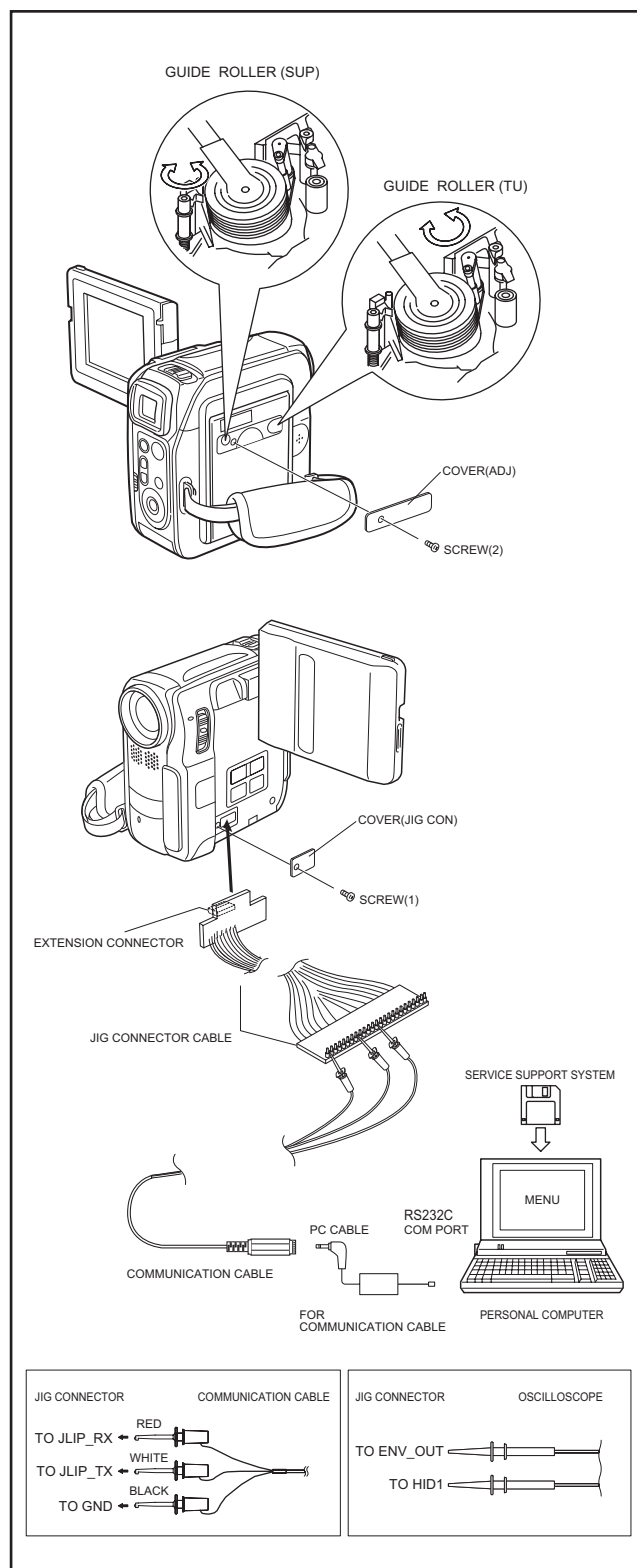
- **Extension connector**

Connect this extension connector to the connector of the Jig connector cable for extending the cable connector.

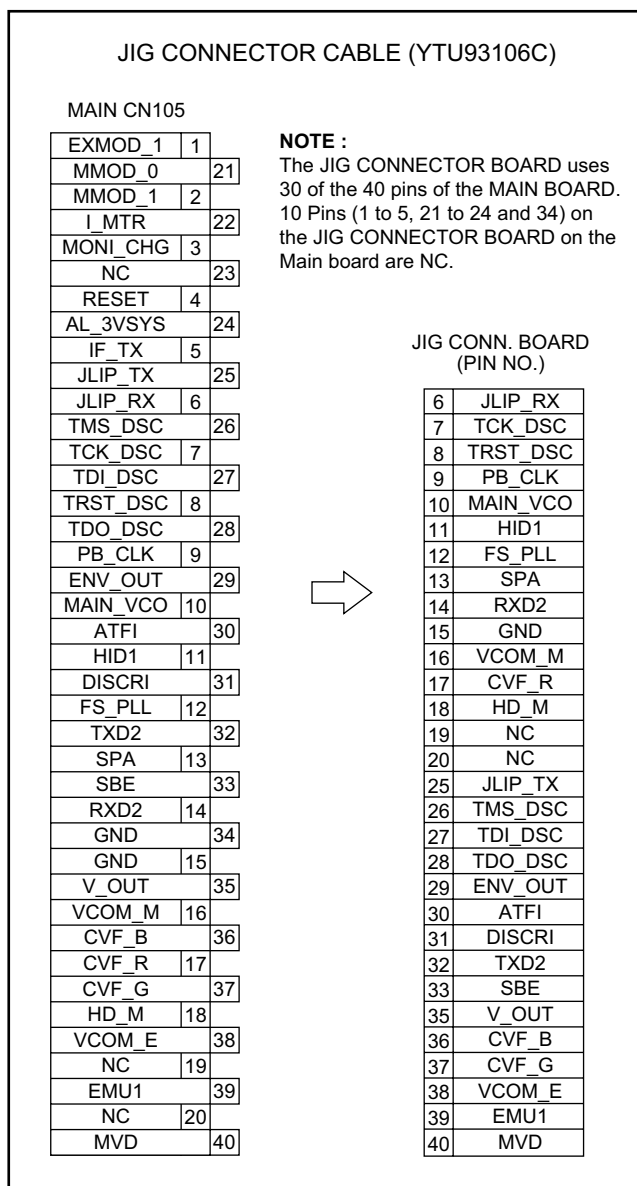
4.2 JIG CONNECTOR CABLE CONNECTION

- Remove one screw (1), and remove the COVER (JIG CON).
- As the figure shows, insert JIG CONNECTOR CABLE in JIG CONNECTOR by using the EXTENSION CONNECTOR so that the wire side faces downward.

■ Connection procedure



■ Jig connector diagrams



4.3 MECHANISM COMPATIBILITY ADJUSTMENT

4.3.1 Tape pattern adjustment

NOTE:

Prior to the adjustment, remove the COVER (ADJ).

- (1) Play back the compatibility adjustment tape.
- (2) While triggering the HID1, observe the waveform of ENV_OUT.
- (3) Set the manual tracking mode (ATF OFF).
- (4) Confirm that the waveform is entirely parallel and straight, and free from remarkable level-down, through the tracking operation.
Make the confirmation as follows if necessary.
- (5) If level-down is observed on the left hand side of the waveform, straighten the level by turning the GUIDE ROLLER (SUP).
If level-down is observed on the right hand side of the waveform, straighten the level by turning the GUIDE ROLLER (TU).
- (6) After the adjustment, try the unloading motion once, and confirm that the waveform is flat when the tape has been played back again.
- (7) Play back the self-recording.
- (8) Confirm that the waveform is flat.

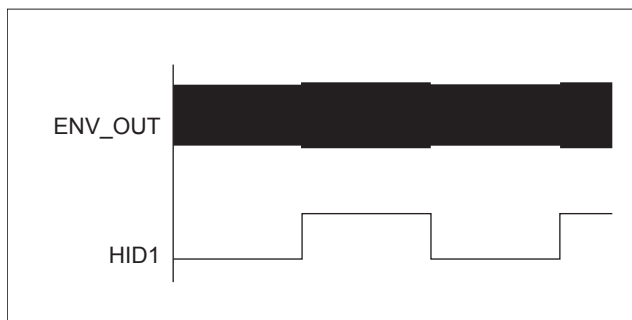


Fig.4-3-1

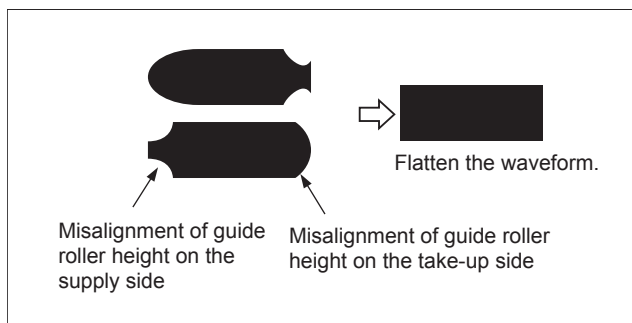


Fig.4-3-2

4.4 ELECTRICAL ADJUSTMENT

Electrical adjustment is performed by using a personal computer and software for SERVICE SUPPORT SYSTEM. Read README.TXT file to use the software properly.

As for the connection of cables, see "4.2 JIG CONNECTOR CABLE CONNECTION".

SECTION 5 TROUBLE SHOOTING

5.1 SERVICE NOTE

CABINET PARTS AND ELECTRICAL PARTS

Symbol No.	[1]	[2]	[3]	[4]	[5]
Removing order of screw	1	2	3	4	5
Place to stick screw	*	*	*	*	*
Reference drawing (Fig.No.)	C1	C2	C3	C4	C5
Screw tightening torque	I				II

CABINET PARTS AND ELECTRICAL PARTS

Symbol No.	[6]	[7]	[8]	[9]	[10]	[11]
Removing order of screw	25	26	27	28	29	30
Place to stick screw	*	*	*	*	*	*
Reference drawing (Fig.No.)	C5	C6	C7	C8	C9	C10
Screw tightening torque	I					II

CABINET PARTS AND ELECTRICAL PARTS

Symbol No.	[12]	[13]	[14]	[15]	[16]
Removing order of screw	46	47	48	49	50
Place to stick screw	*	*	*	*	*
Reference drawing (Fig.No.)	C9	C10	C11	C12	C13
Screw tightening torque	I				II

[9] MONITOR ASSEMBLY

Removing order of screw	1	2	3	4	5	6	7	8	9	10	11
Place to stick screw	*	*	*	*	*	*	*	*	*	*	*
Reference drawing (Fig.No.)	3-2-3										
Screw tightening torque	IV	V	VI	IV	VI	IV	VI	IV	VI	IV	VI

[12] VF ASSEMBLY

Removing order of screw	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Place to stick screw	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Reference drawing (Fig.No.)	3-2-4													
Screw tightening torque	VIII													

[13] OP BLOCK ASSEMBLY / CCD BOARD ASSEMBLY	1	2	3	4	5	6	7	8
	*	*	*	*	*	*	*	*
	3-2-5							
	IV	III	III	III	III	III	III	VII

NOTE:

- * : Don't reuse the screw, because screw lock bond was applied to them.
- Pay careful attention to tightening torque for each screw.

I : 0.088N·m (0.9kgf·cm)	II : 0.078N·m (0.8kgf·cm)
IV : 0.098N·m (1.0kgf·cm)	V : 0.196N·m (2.0kgf·cm)
VII : 0.019N·m (0.2kgf·cm)	VIII : 0.059N·m (0.6kgf·cm)
III : 0.069N·m (0.7kgf·cm)	VI : 0.246N·m (2.5kgf·cm)
	IX : 0.049N·m (0.5kgf·cm)

5.2 TAKE OUT CASSETTE TAPE

The following procedure is a method for taking out the cassette tape in case the cassette tape cannot be ejected due to an electrical failure. The following procedure is a simplified method; therefore, for more reliable operation, it is recommended that you should remove exterior parts so that you can take out the tape without excessive force.

- (1) Remove the Power Unit (battery or DC cord) from the set.
- (2) Open the CASSETTE COVER till it is completely opened and fixed.
- (3) Attach a PVC tape as shown in the figure.

NOTE:

Be careful of cassette tape damage caused because the Cassette Housing Assembly is moved upward at the unloading end (Eject mode).

- (4) To set the Slide Deck Assembly to the unloading end, apply DC 3V to the electrode (terminal) on the top surface of the LOADING MOTOR that is seen through a space of VF side.

NOTE:

Be careful not to attach grease or a similar substance to the surface of the cassette tape on the tape transport system.

- (5) Wind the cassette tape by directly turning the Reel Disk Assembly (SUP) from the backside of the SLIDE DECK ASSEMBLY by using a sharp tool (Chip IC replacement tool).
- (6) Confirm that the cassette tape is completely wound, and then peel off the PVC tape from the CASSETTE HOUSING ASSEMBLY and take out the cassette tape.

NOTE:

To confirm that the cassette tape is completely wound, confirm that one REEL DISK ASSEMBLY (TU) rotates as you rotate the other REEL DISK ASSEMBLY (SUP).

- (7) Make sure that grease or a similar substance is not attached to the surface of the tape taken out in the procedure (6). Similarly, also make sure that grease or a similar substance is not attached on the MECHANISM ASSEMBLY, especially the tape transport system.

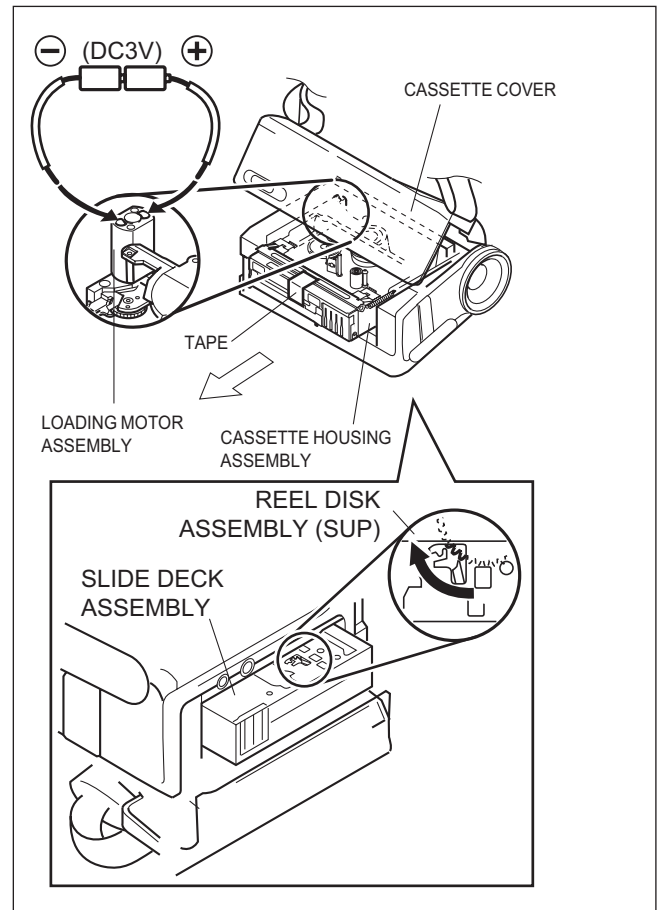


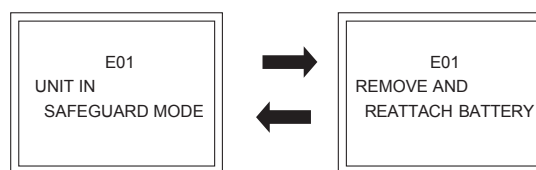
Fig.5-2-1

5.3 EMERGENCY DISPLAY

Whenever some abnormal signal is input to the syscon CPU, an error number (E01, as an example) is displayed on the LCD monitor or (in the electronic view finder). In every error status, such the message as shown below alter nately appear over and over.

- In an emergency mode, all operations except turning on/off the POWER switch are ineffectual.

Example (in case of the error number E01):



LCD display	Emergency mode	Details	Possible cause																		
E01	LOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the loading direction for 4 seconds or more. This error is defined as [E01].	1. The mechanism is locked during mode shift. 2. The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift. 3. No power is supplied to the loading MDA.																		
E02	UNLOADING	In the case the encoder position is not shifted to the next point though the loading motor has rotated in the unloading direction for 4 seconds or more. This error is defined as [E02].	1. The mechanism is locked during mode shift. 2. The mechanism is locked at the mechanism loading end, because the encoder position is skipped during mechanism mode shift.																		
E03	TU & SUP REEL FG	In the case no REEL FG is produced for seconds shown in the table below or more in the capstan rotation mode after loading was complete, the mechanism mode is shifted to STOP with the pinch roller set off. This error is defined as [E03]. However, no REEL EMG is detected in the SLW/STILL mode. <table><tr><td></td><td>REEL(SUP)</td><td>REEL(TU)</td></tr><tr><td>PB/REC</td><td>3 SEC</td><td>3 SEC</td></tr><tr><td>S-FWD</td><td>3 SEC</td><td>0.3 SEC</td></tr><tr><td>S-REW</td><td>0.3 SEC</td><td>3 SEC</td></tr><tr><td>FF</td><td>3 SEC</td><td>0.1 SEC</td></tr><tr><td>REW</td><td>0.1 SEC</td><td>3 SEC</td></tr></table>		REEL(SUP)	REEL(TU)	PB/REC	3 SEC	3 SEC	S-FWD	3 SEC	0.3 SEC	S-REW	0.3 SEC	3 SEC	FF	3 SEC	0.1 SEC	REW	0.1 SEC	3 SEC	1. The idler gear does not engage with the reel disk well. 2. Though the idler gear and reel disk are engaged with each other, the tape is not wound because of overload to the mechanism. 3. No FG pulse is output from the reel sensor. 4. No power is supplied to the reel sensor. 5. Tape transport operation takes place with a cassette having no tape inside. 6. The tape slackens and no pulse is produced until the slack is taken up and the tape comes into the normal status.
	REEL(SUP)	REEL(TU)																			
PB/REC	3 SEC	3 SEC																			
S-FWD	3 SEC	0.3 SEC																			
S-REW	0.3 SEC	3 SEC																			
FF	3 SEC	0.1 SEC																			
REW	0.1 SEC	3 SEC																			
E04	DRUM FG	In the case there is no DRUM FG input in the drum rotation mode for 4 seconds or more. This error is defined as [E04], and the mechanism mode is shifted to STOP with the pinch roller set off.	1. The drum cannot be started or drum rotation is stopped because tape transport load is too high. 1) Tape tension is extremely high. 2) The tape is damaged or soiled with grease, etc. 2. The DRUM FG signal is not received by the syscon CPU. 1) Disconnection in the middle of the signal line. 2) Failure of the DRUM FG pulse generator (hall element). 3. No drum control voltage is supplied to the MDA. 4. No power is supplied to the DRUM MDA.																		
E05	-	-	-																		
E06	CAPSTAN FG	In the case no CAPSTAN FG is produced in the capstan rotation mode for 2 seconds or more. This error is defined as [E06], and the mechanism mode is shifted to STOP with the pinch roller set off. However, no CAPSTAN EMG is detected in the STILL/FF/REW mode.	1. The CAPSTAN FG signal is not received by the syscon CPU. 1) Disconnection in the middle of the signal line. 2) Failure of the CAPSTAN FG pulse generator (MR element). 2. No capstan control voltage is supplied to the MDA. 3. The capstan cannot be started or capstan rotation is stopped because tape transport load is too high. 1) Tape tension is extremely high. (Mechanical locking) 2) The tape is damaged or soiled with grease, etc. (Tape tangling occurs, etc.)																		

Fig.5-3-1



VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY CAMCORDER CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YF034)



Printed in Japan
WPC

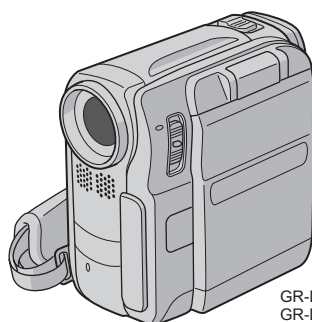


SCHEMATIC DIAGRAMS

DIGITAL VIDEO CAMERA

**GR-DX67EK, GR-DX77EK, GR-DX77ER,
GR-DX77EX, GR-DX77EY, GR-DX77EZ,
GR-DX78EX, GR-DX97EK, GR-DX97EX,
GR-DX97EY, GR-DX97EZ**

CD-ROM No.SML200403



Mini **DV** PAL
DSC
DIGITAL
STILL CAMERA

GR-DX67EK[M4D3S6], GR-DX77EK, GR-DX77ER, GR-DX77EX, GR-DX77EY, GR-DX77EZ,
GR-DX78EX[M4D3S7], GR-DX97EK, GR-DX97EX, GR-DX97EY, GR-DX97EZ[M4D3M7]

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700(MECHANISM ASSEMBLY).

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

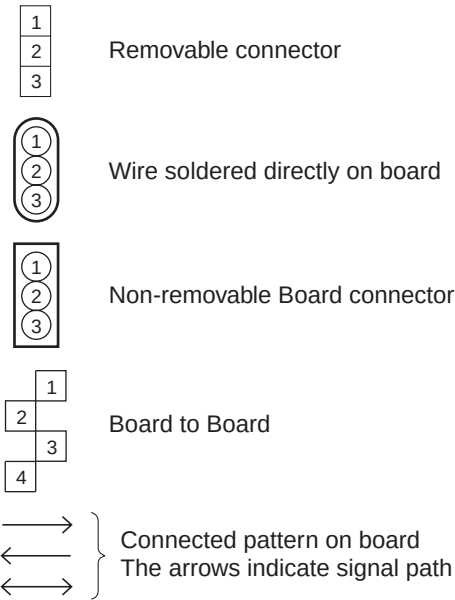
- Unless otherwise specified.
- 1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
K: K (1000), M: M (1000K)
 - 2) All capacitance values are in μ F, (P: PF).
 - 3) All inductance values are in μ H, (m: mH).
 - 4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

2. Indications of control voltage

AUX : Active at high.
 $\overline{\text{AUX}}$ or AUX(L) : Active at low.

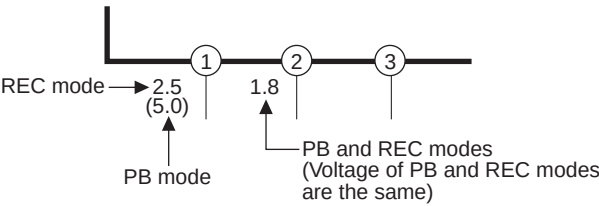
3. Interpreting Connector indications



Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

- 1) Regulator (DC/DC CONV) circuits
REC : Colour bar signal.
PB : Alignment tape (Colour bar).
— : Unmeasurable or unnecessary to measure.
- 2) Indication on schematic diagram
Voltage Indications for REC and PB mode on the schematic diagram are as shown below.

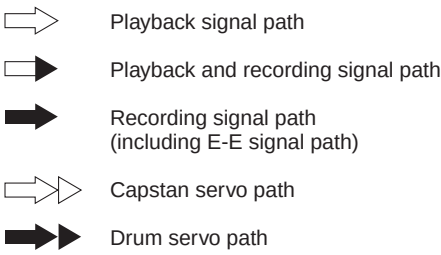


Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

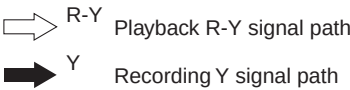
5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.



(Example)



6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



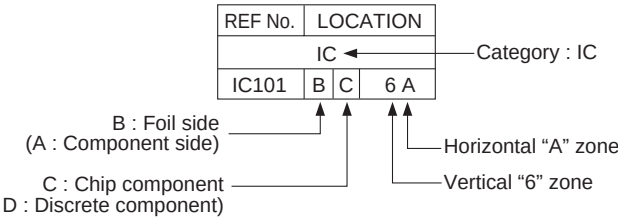
CIRCUIT BOARD NOTES

1. Foil and Component sides

- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

BOARD INTERCONNECTION

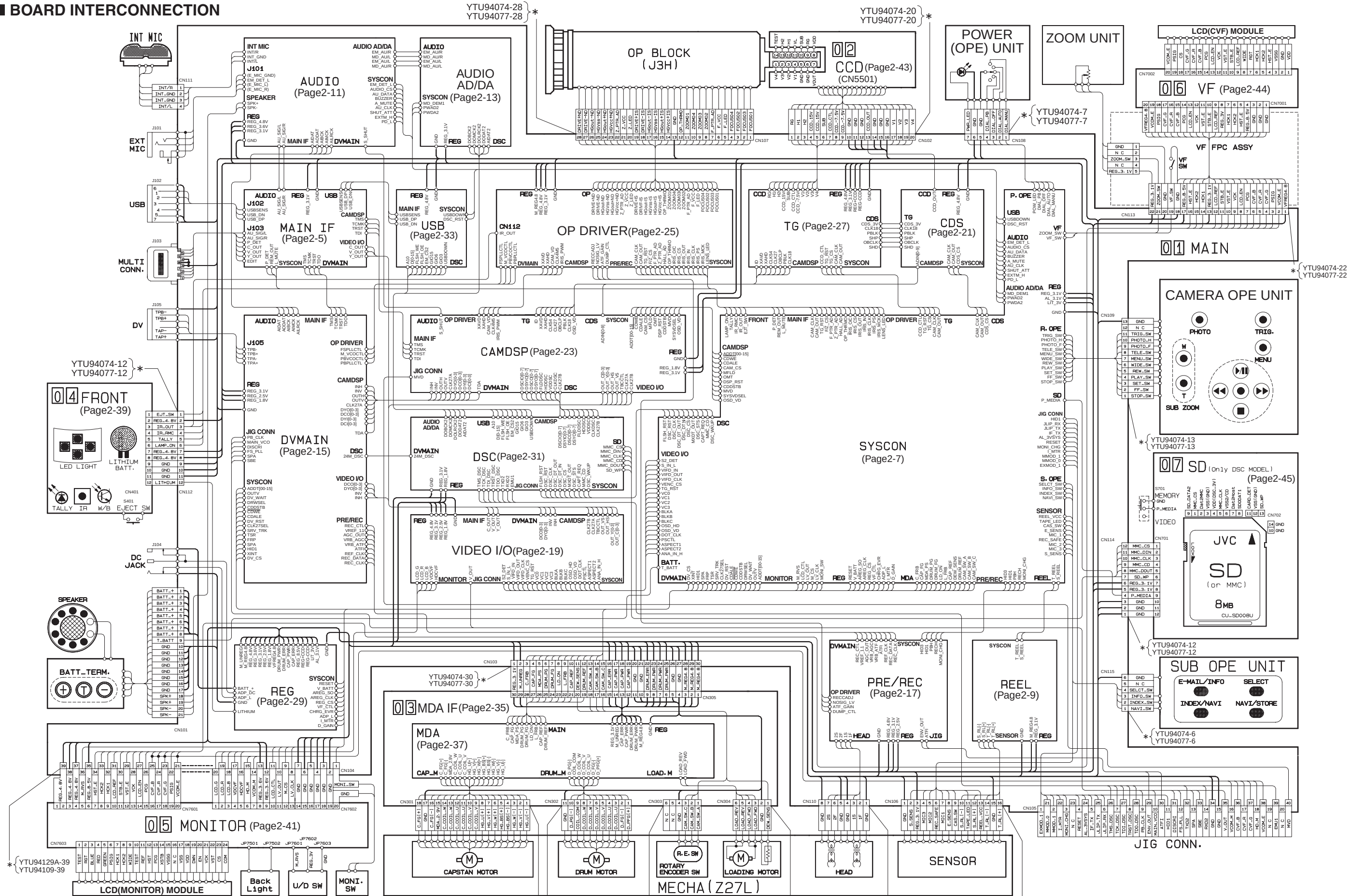
5

4

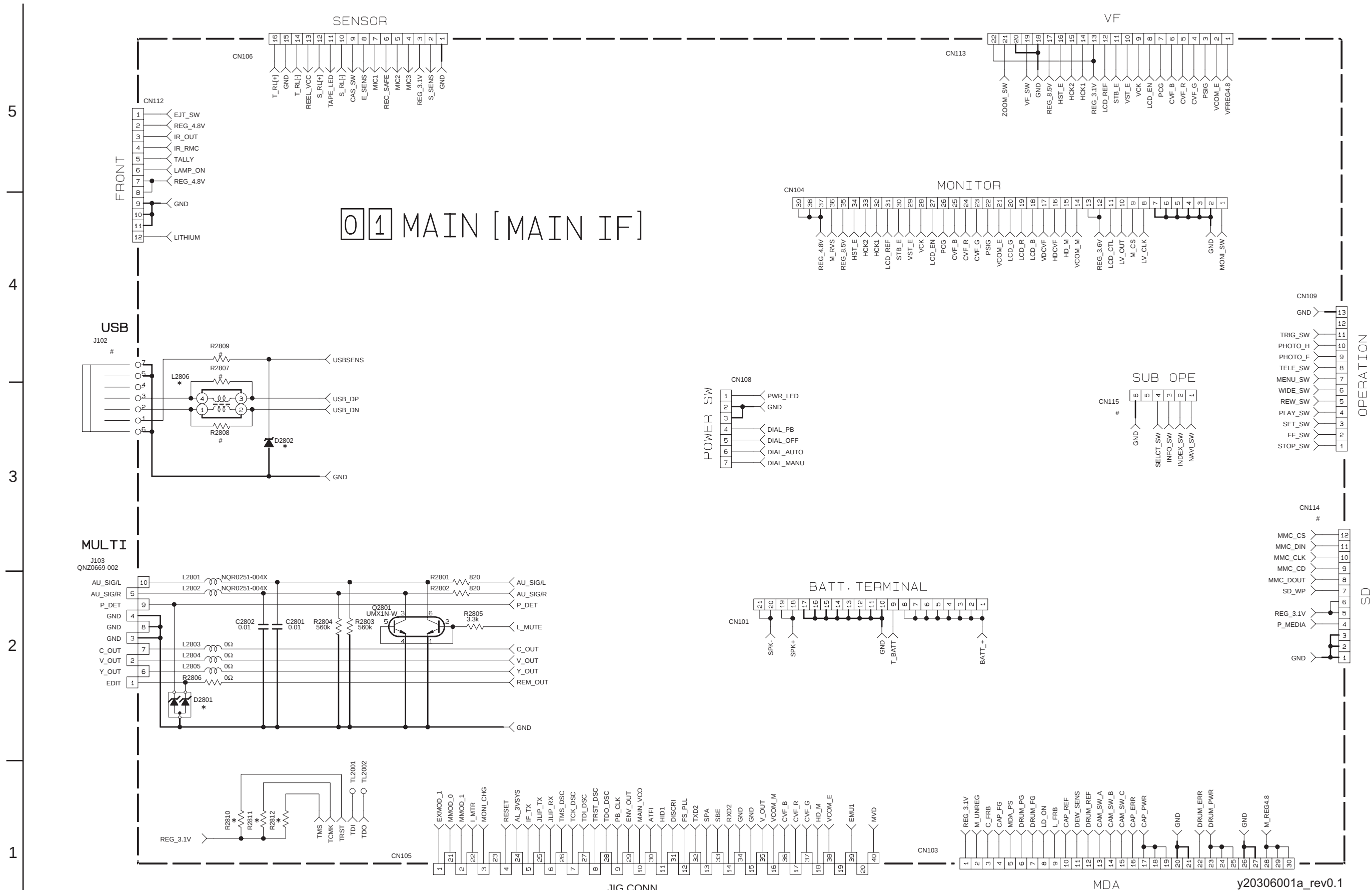
3

2

1



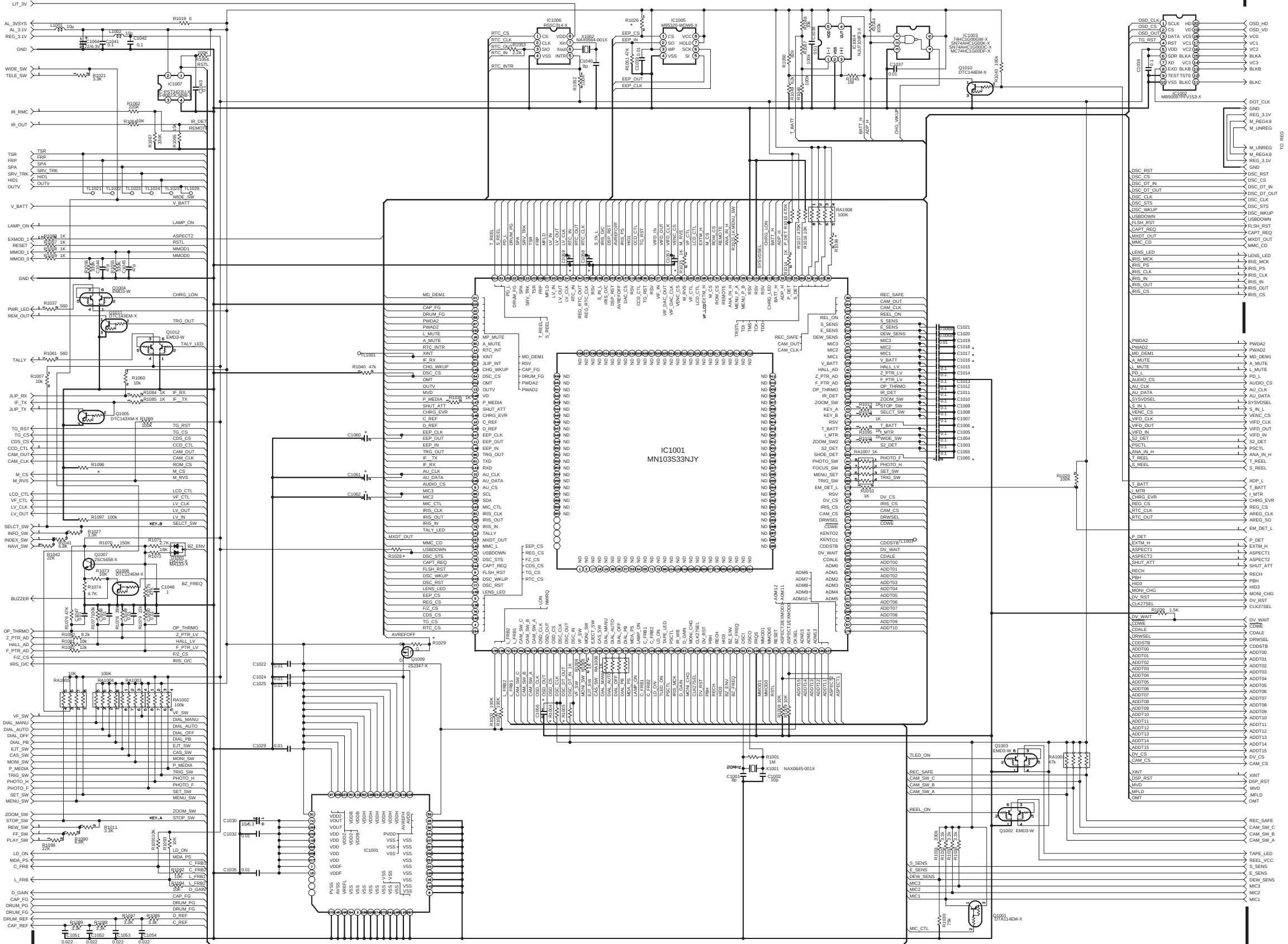
MAIN(MAIN IF) SCHEMATIC DIAGRAM



NOTE : The parts with marked (*) is not used.

■ MAIN(SYSCON) SCHEMATIC DIAGRAM

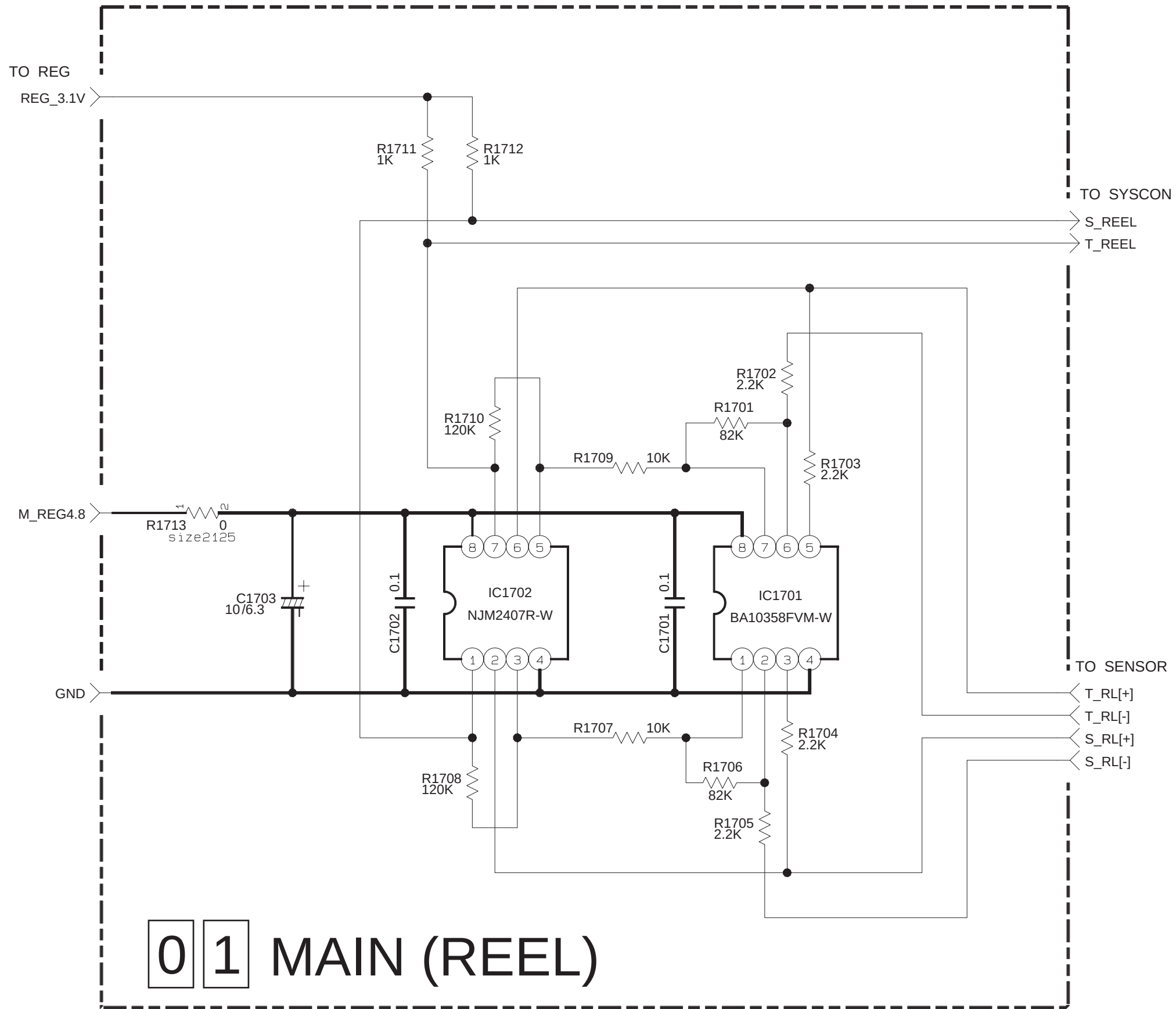
01 MAIN(SYSCON)



NOTE : The parts with marked (*) is not used.

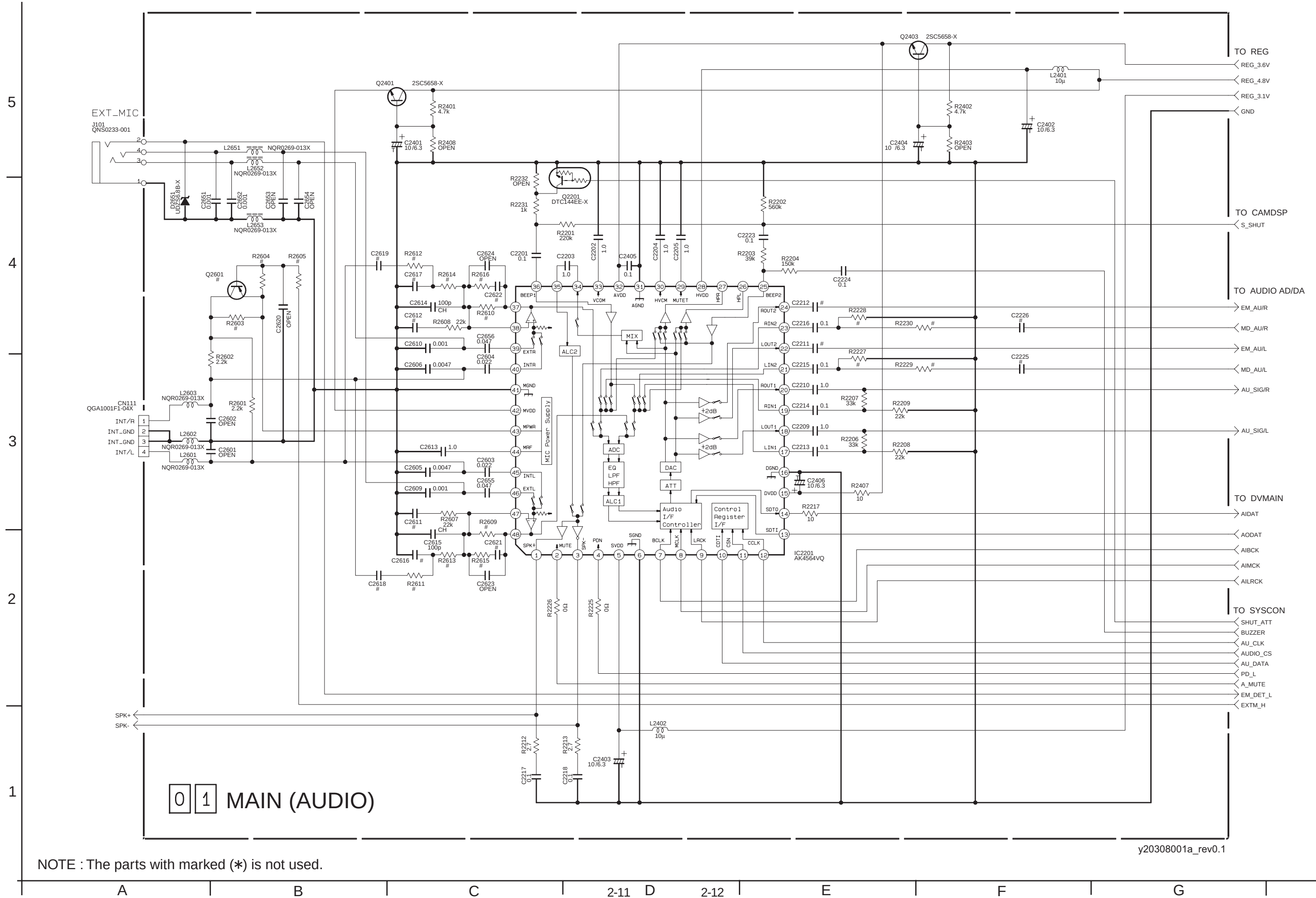
y10431001a_rev0.1

■ MAIN(REEL) SCHEMATIC DIAGRAM



y30266001a_rev0.1

■ MAIN(AUDIO) SCHEMATIC DIAGRAM



NOTE : The parts with marked (*) is not used.

y20308001a_rev0.1

■ MAIN(AUDIO AD/DA) SCHEMATIC DIAGRAM

0 1 MAIN(AUDIO AD/DA)

TO AUDIO

TO DSC

TO SYSCON

TO REG

GND

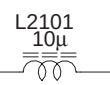
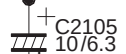
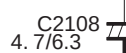
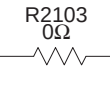
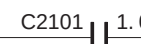
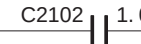
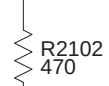
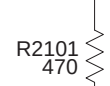
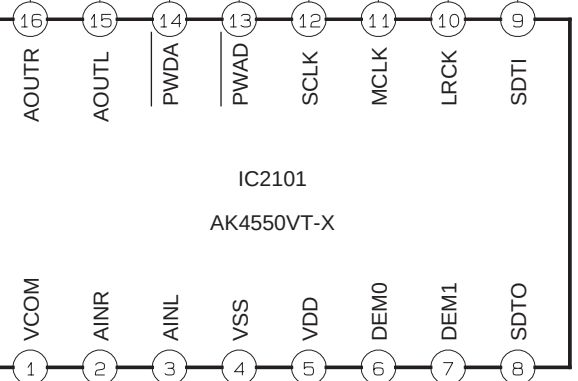
DOBACK2
DOMCK2
DOLRCK2
DODAT2
AIDAT2

PWDA2
PWAD2
MD_DEM1

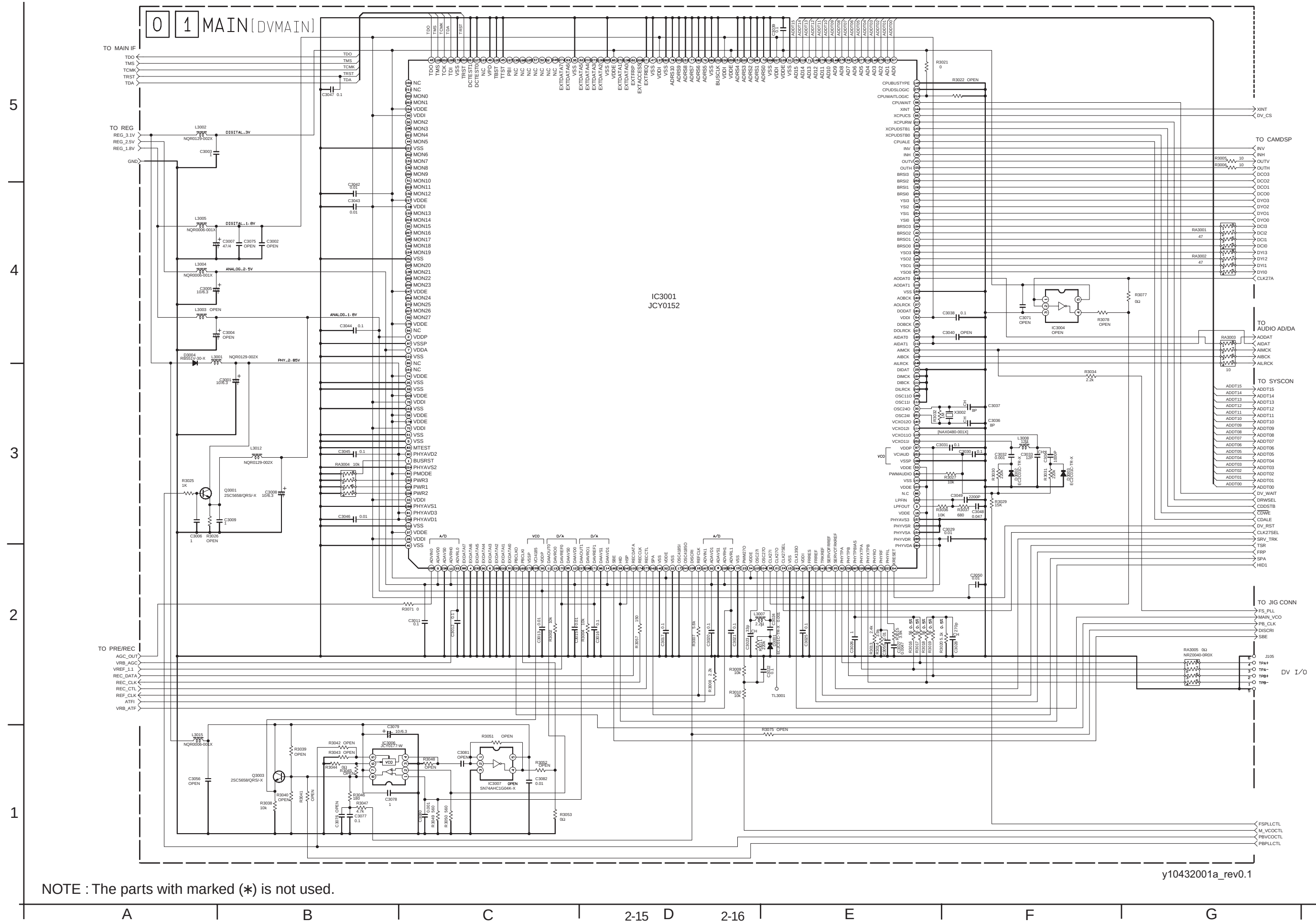
REG_3.1V

GND

MD_AU/L
MD_AU/R
EM_AU/R
EM_AU/L



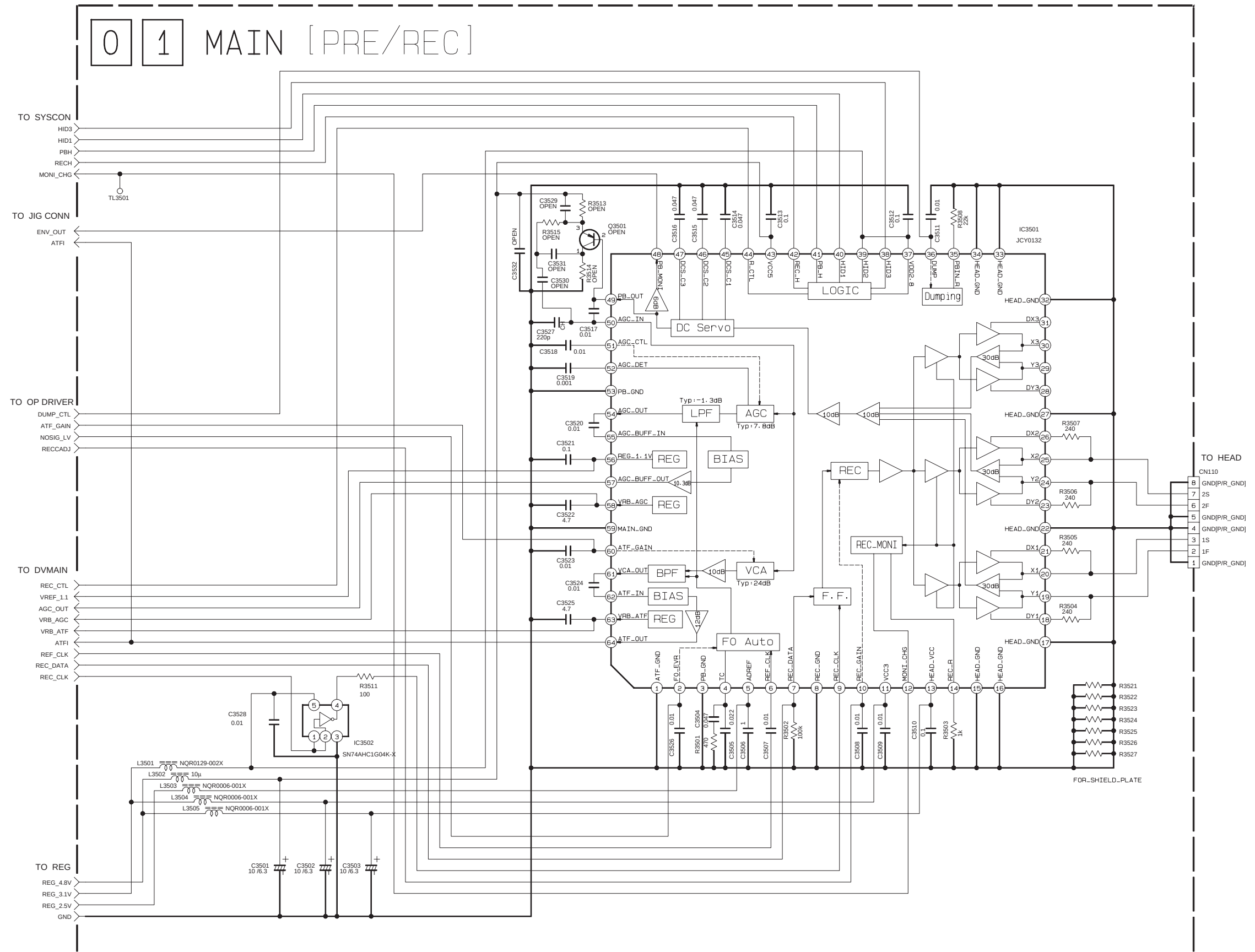
■ MAIN(DVMAIN) SCHEMATIC DIAGRAM



NOTE : The parts with marked (*) is not used.

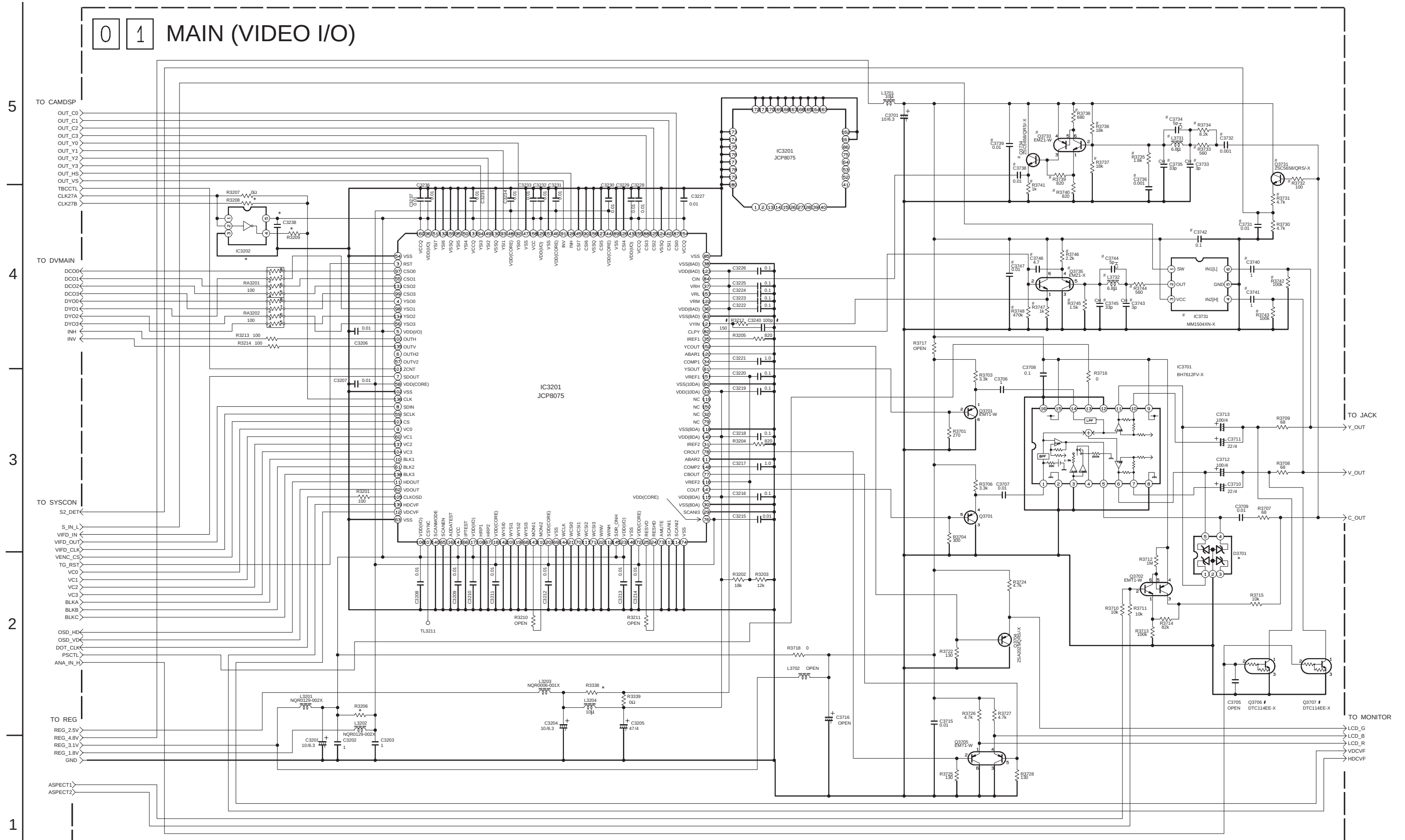
y10432001a_rev0.1

■ MAIN(PRE/REC) SCHEMATIC DIAGRAM



y20310001a_rev0.1

■ MAIN(VIDEO I/O) SCHEMATIC DIAGRAM

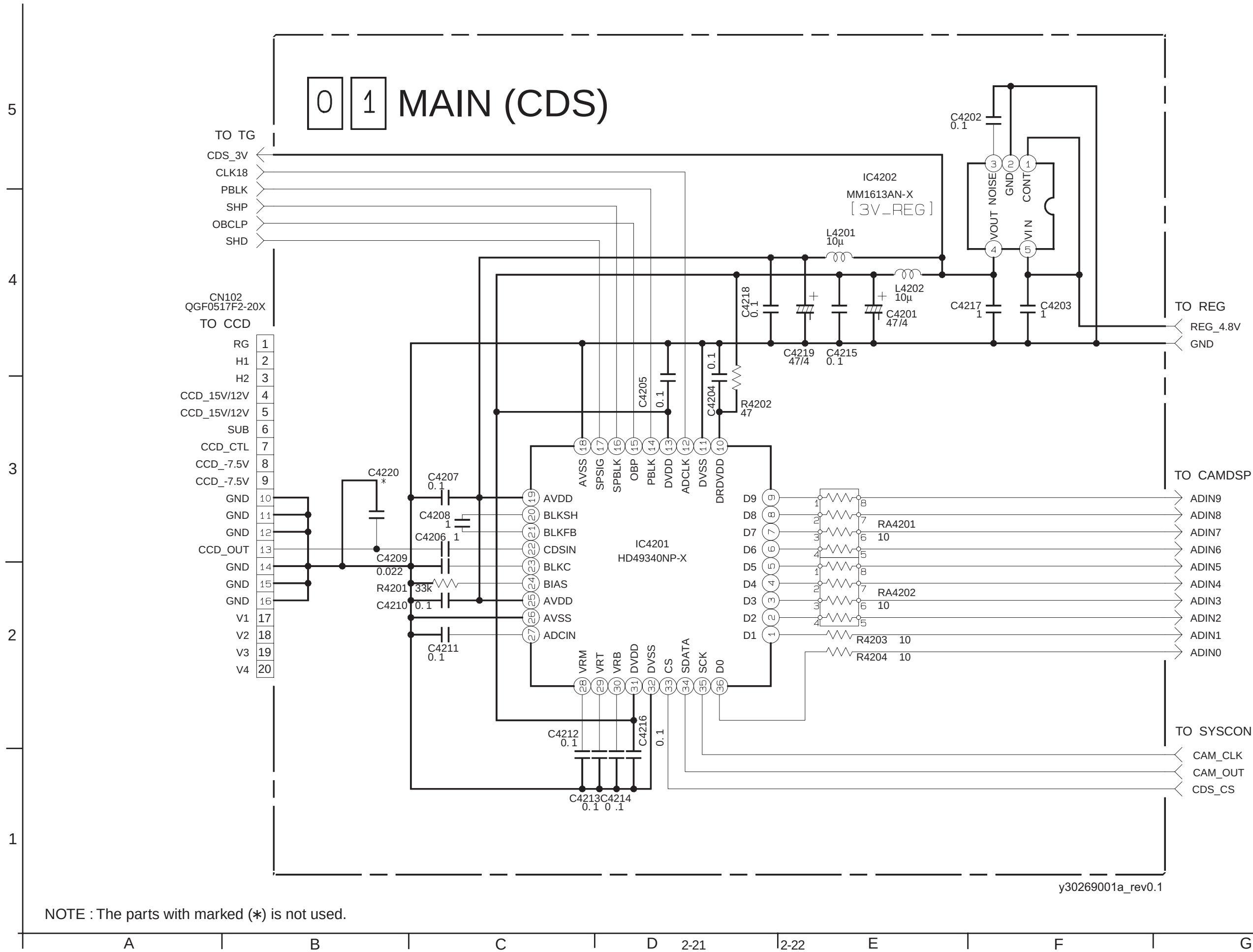


NOTE : The parts with marked (*) is not used.

#1: EXCHANGE PARTS LIST	WITH ANALOG INPUT	WITHOUT ANALOG INPUT
IC3731	WARE	NO WARE
Q3731-03723-03735	WARE	NO WARE
L3731, L3732	WARE	NO WARE
R3731-R3748, R3212	WARE	NO WARE
C3731-C3747: C3240	WARE	NO WARE
Q3705, Q3707	WARE	NO WARE

y10434001a_rev0.1

■ MAIN(CDS) SCHEMATIC DIAGRAM



NOTE : The parts with marked (*) is not used.

0 1 MAIN (CAMDSP)



A

B

C

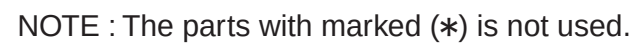
2-23 [

2-24

E

G

01 MAIN(OP DRIVER)



A

B

C

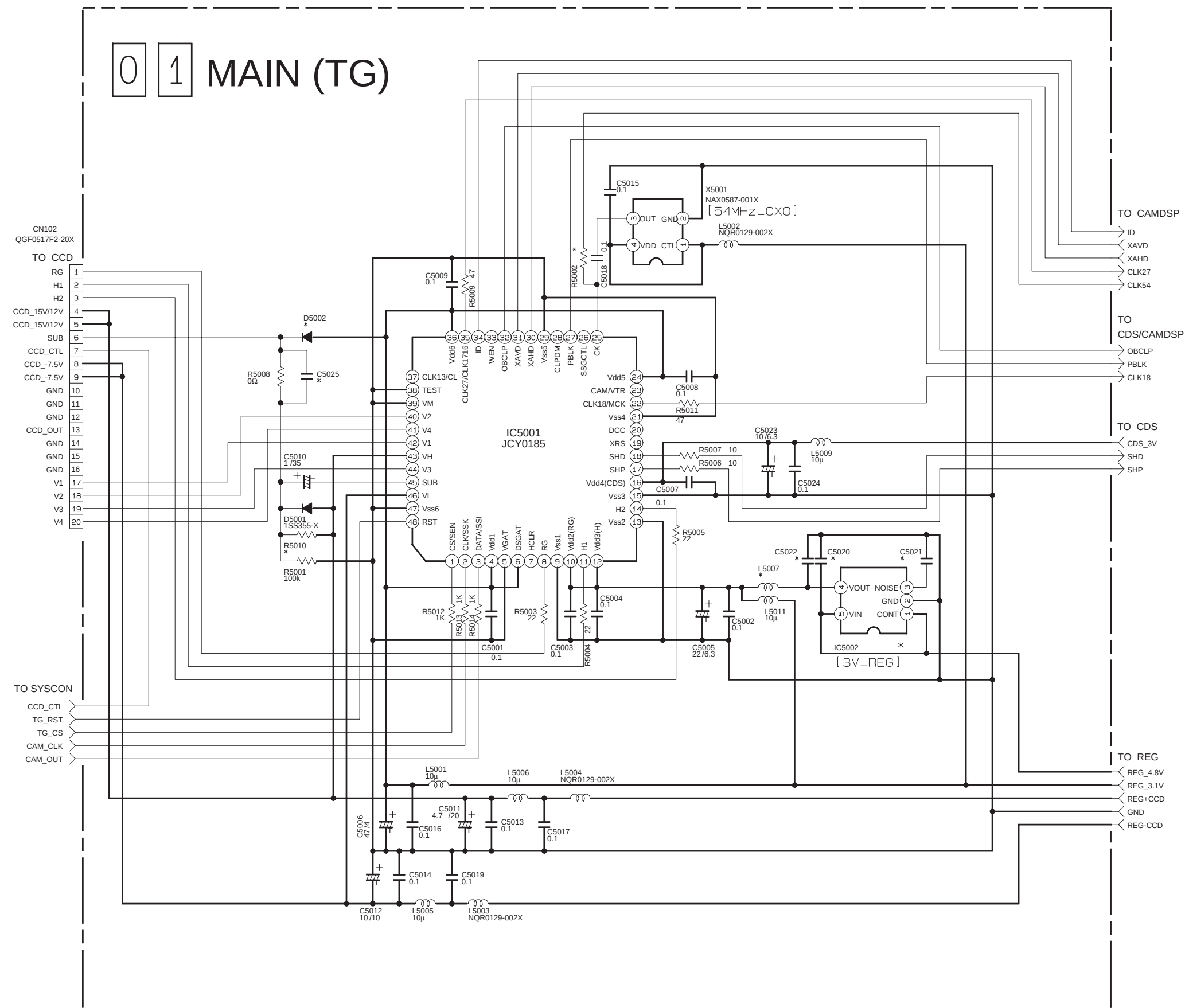
2-25

E

F

G

■ MAIN(TG) SCHEMATIC DIAGRAM



y20311001a_rev0.1

NOTE : The parts with marked (*) is not used.

5



3

2

1

D 2-29

12-30

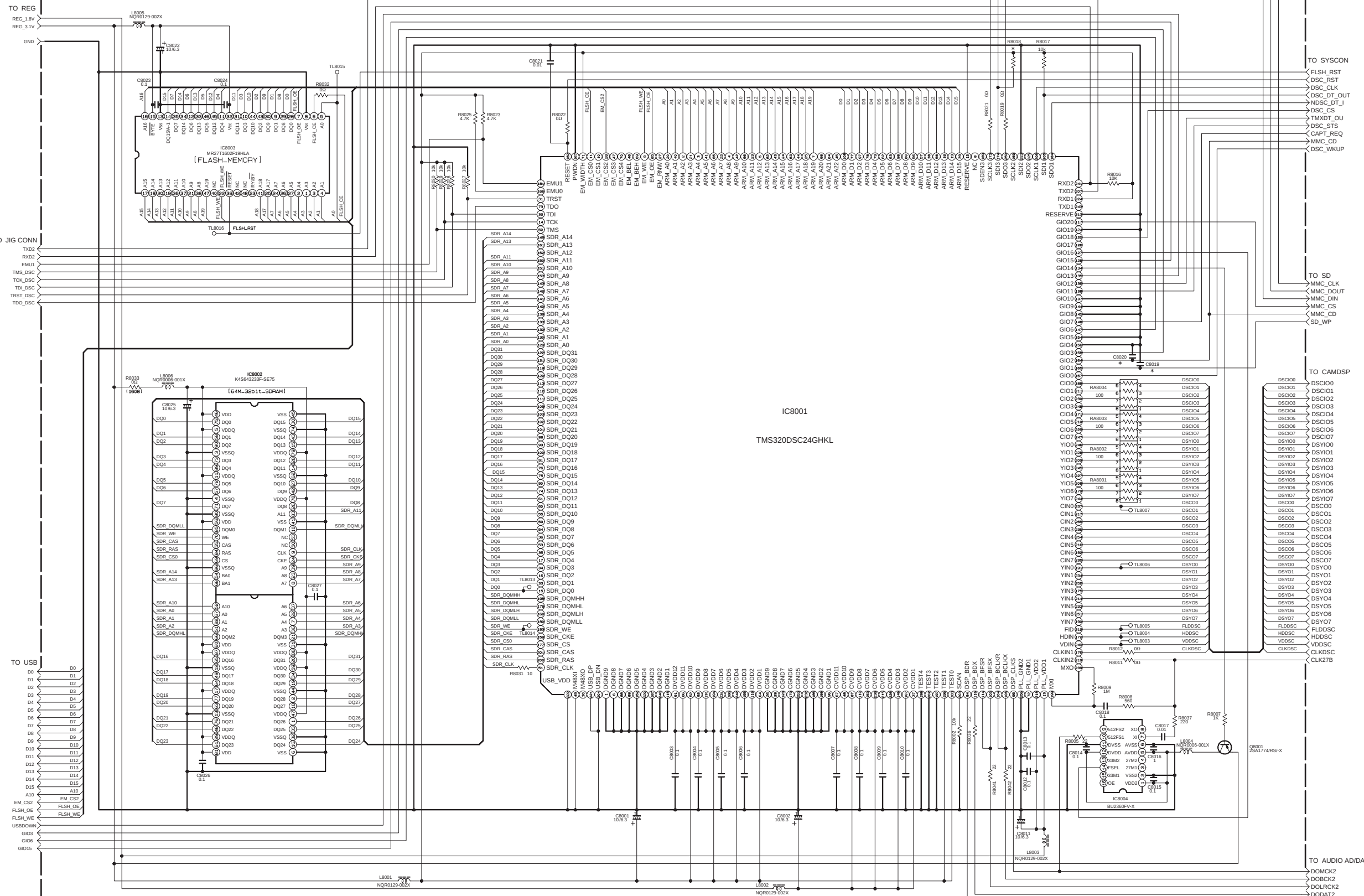
E

F

G

■ MAIN(DSC) SCHEMATIC DIAGRAM

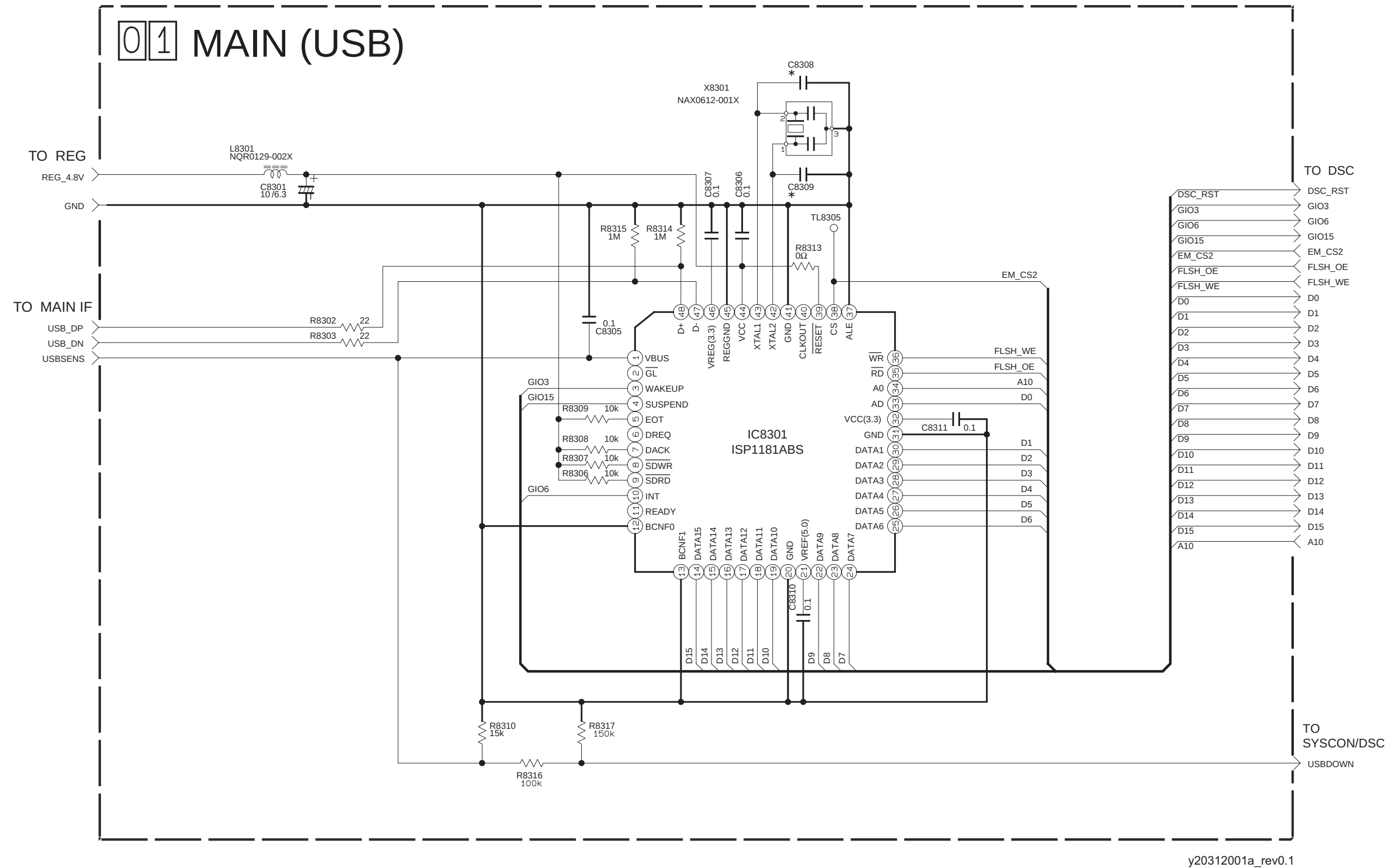
01 MAIN (DSC)



y10439001a_rev0.1

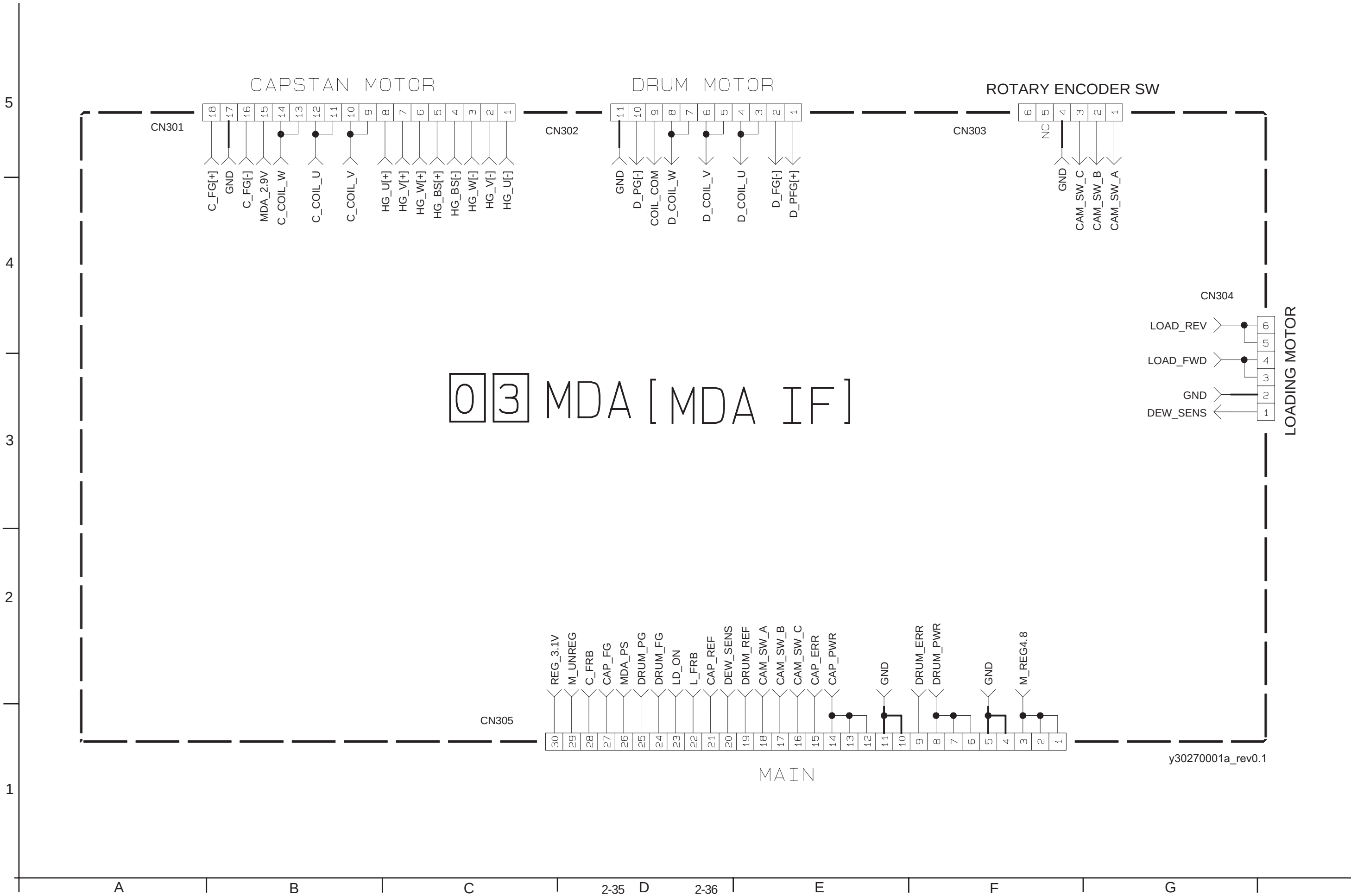
NOTE : The parts with marked (*) is not used.

■ MAIN(USB) SCHEMATIC DIAGRAM

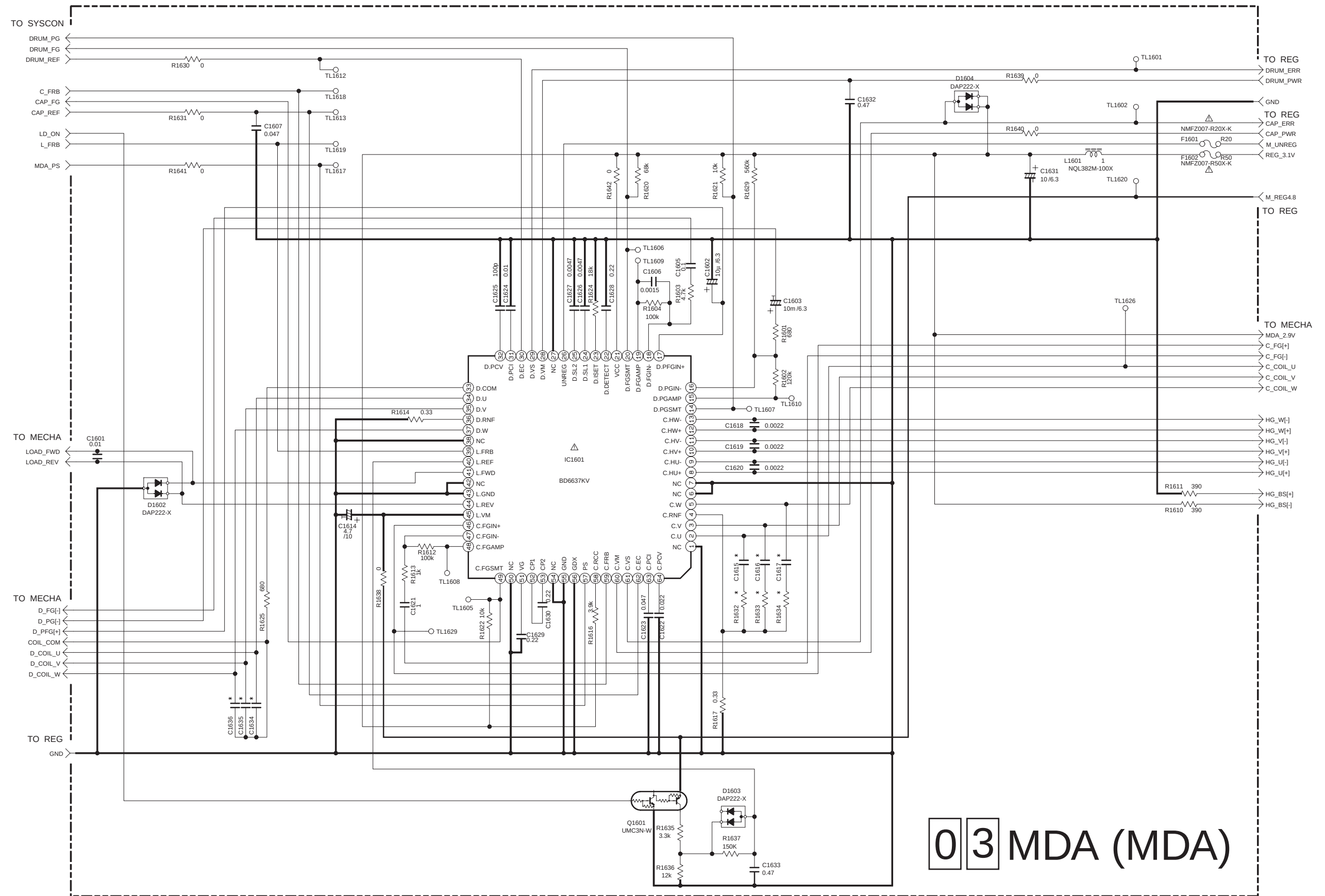


NOTE : The parts with marked (*) is not used.

■ MDA(MDA IF) SCHEMATIC DIAGRAM



MDA(MDA) SCHEMATIC DIAGRAM



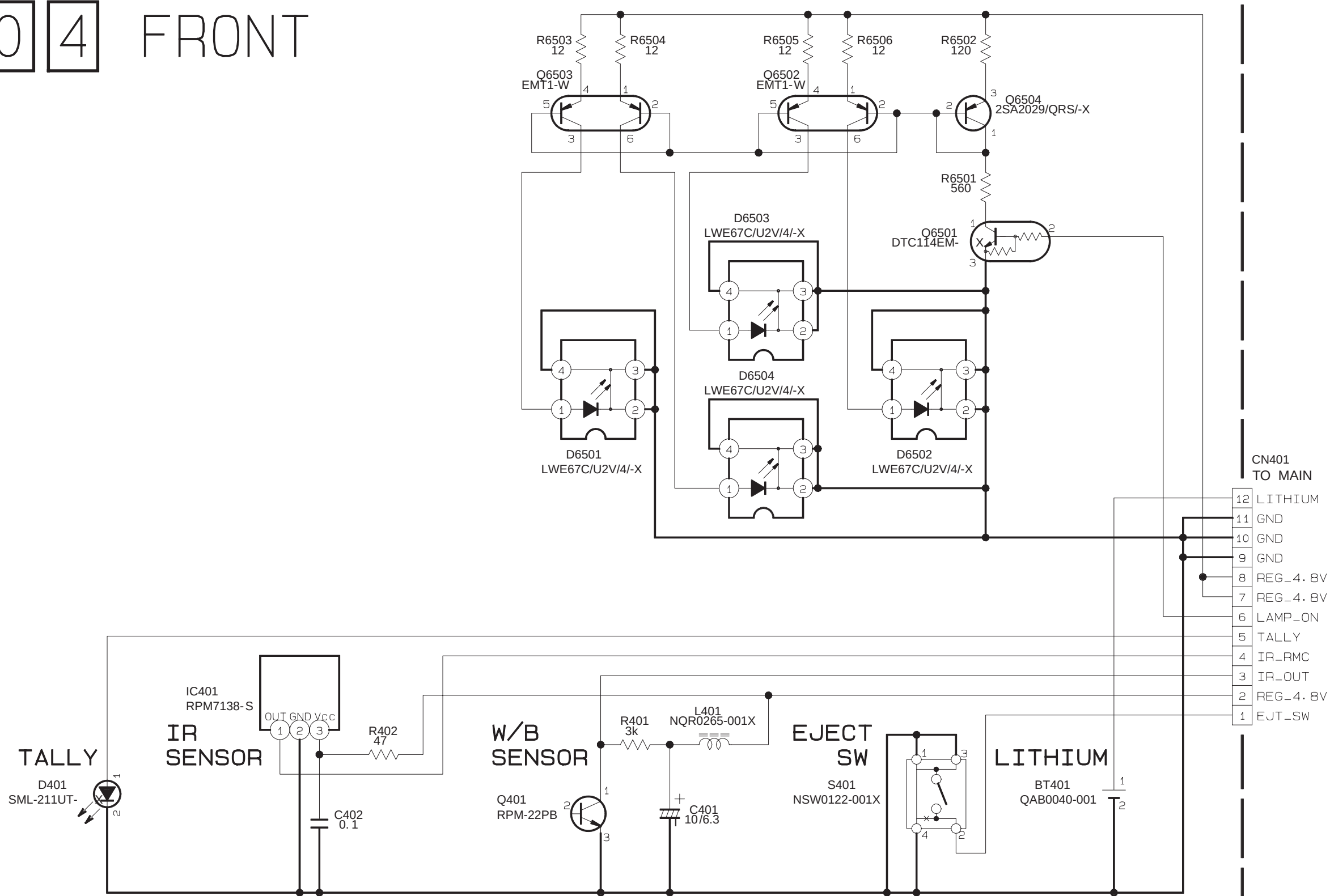
03 MDA (MDA)

y20313001a_rev0.1

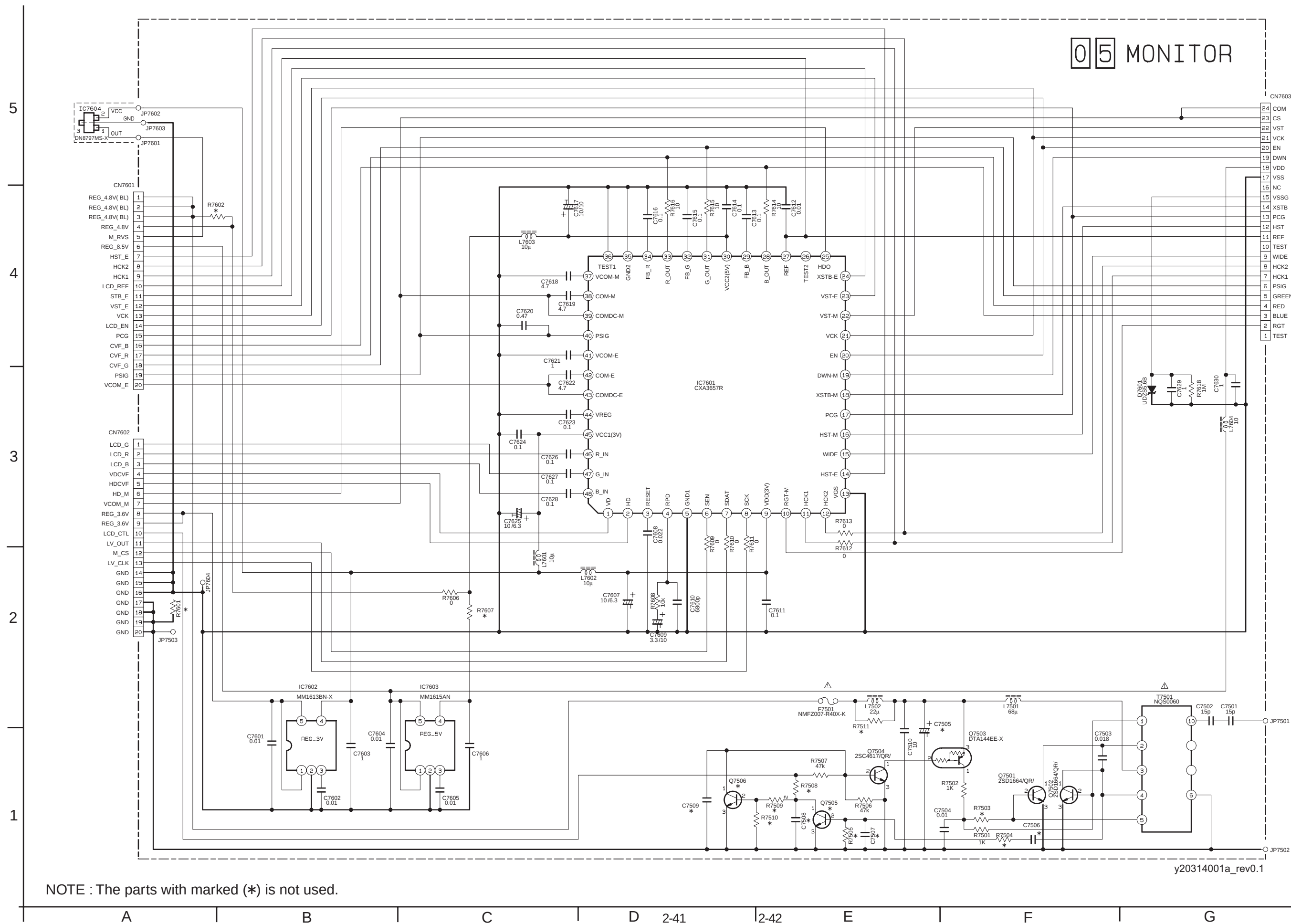
NOTE : The parts with marked (*) is not used.

FRONT SCHEMATIC DIAGRAM

04 FRONT



MONITOR SCHEMATIC DIAGRAM

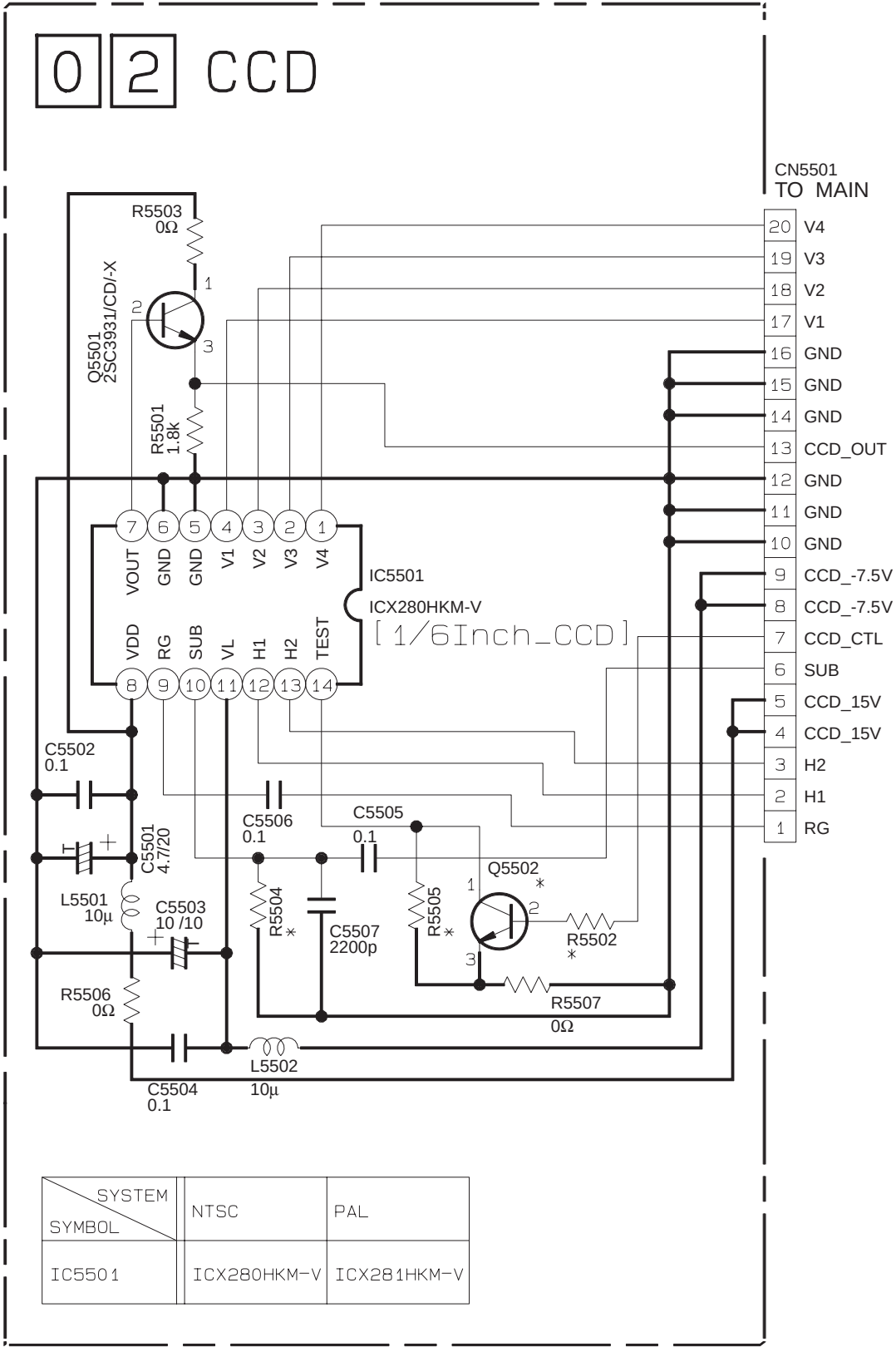


NOTE : The parts with marked (*) is not used.

y20314001a_rev0.1

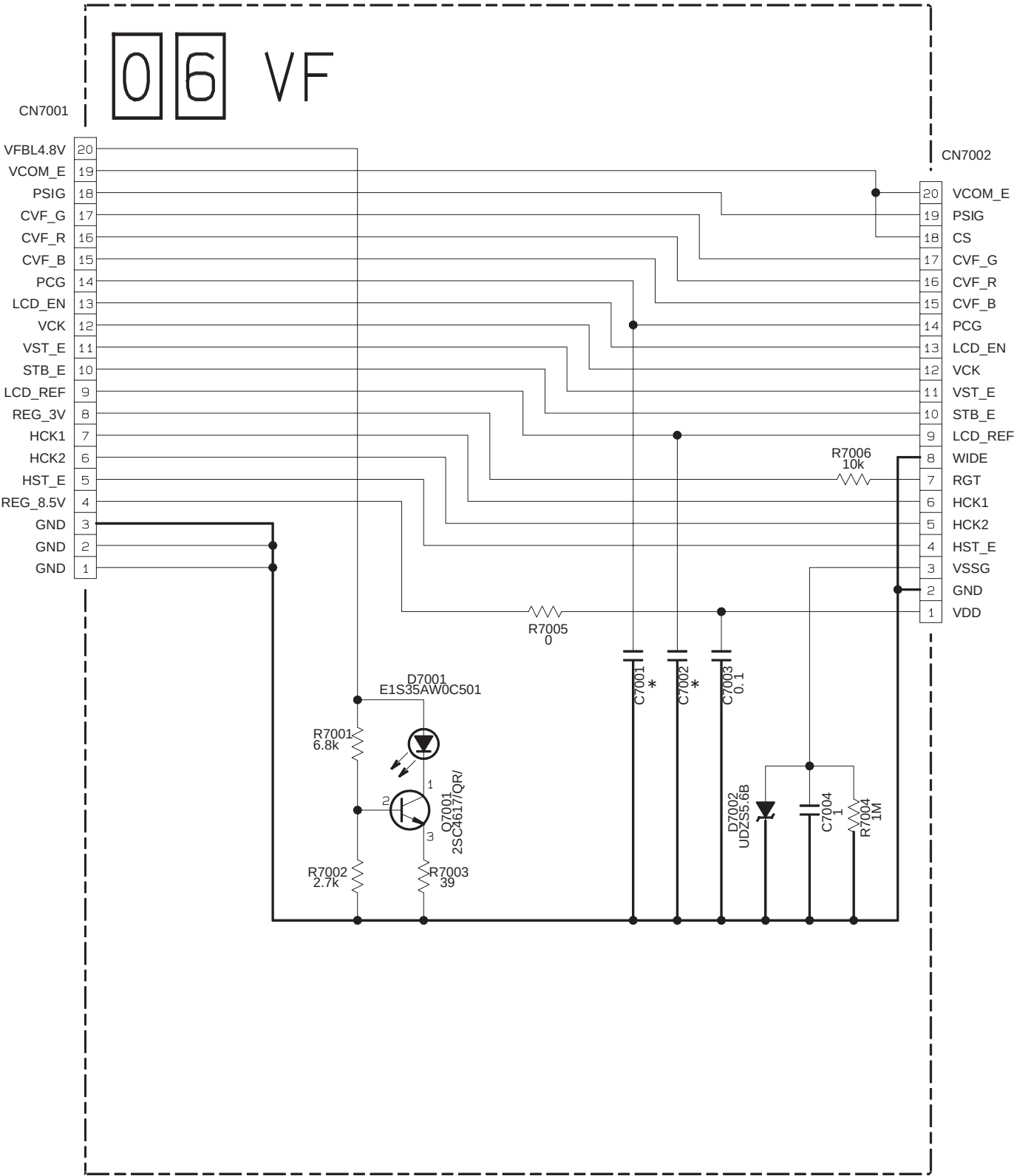
CCD SCHEMATIC DIAGRAM

NOTES : ●For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
●When ordering parts, be sure to order according to the Part Number indicated in the Parts List.
●IC5501 is incorporated in the CCD base assembly.
When IC5501 needs replacement, replace the CCD base assembly in whole because it cannot be replaced alone.



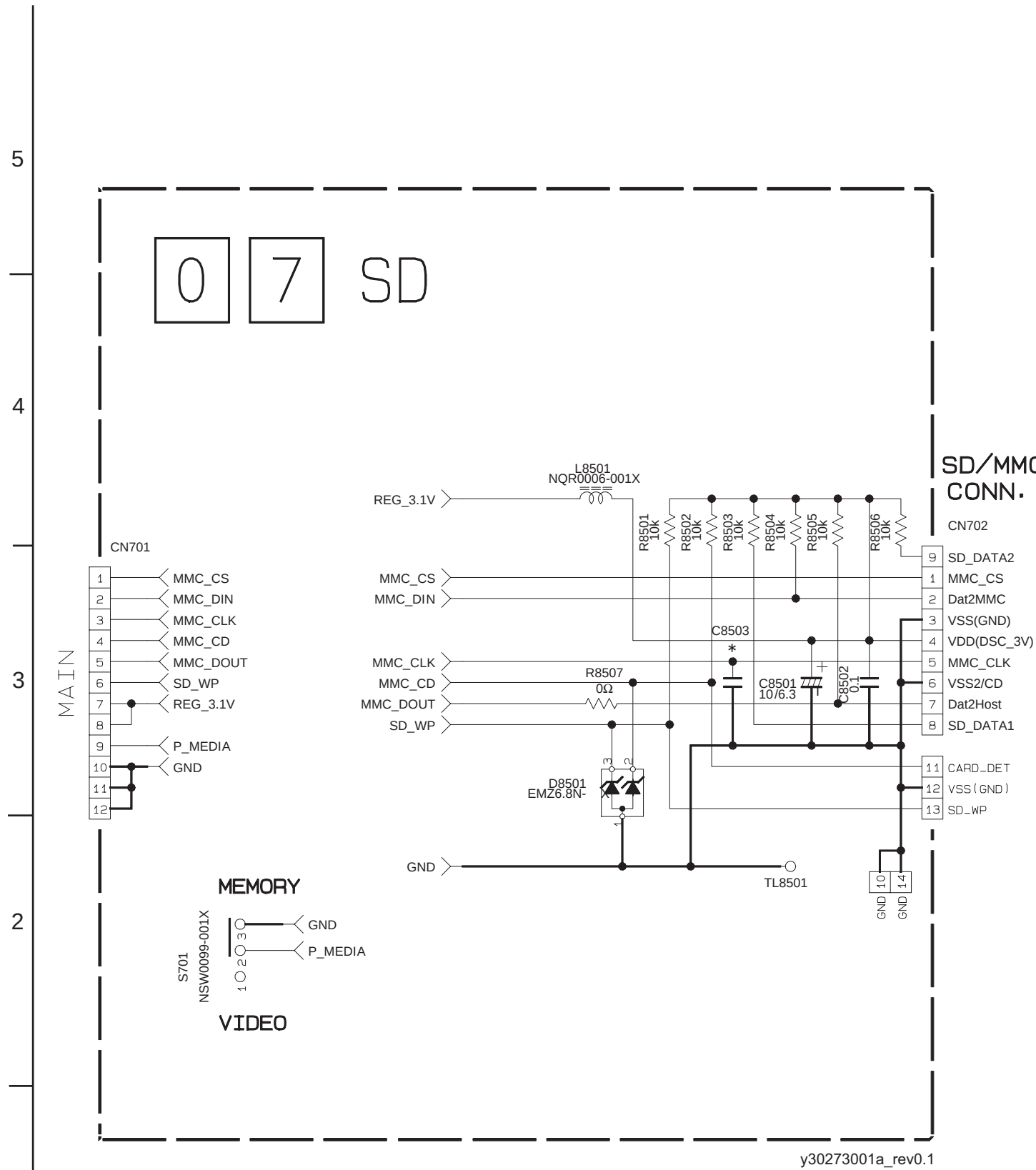
NOTE : The parts with marked (*) is not used.

VF SCHEMATIC DIAGRAM



NOTE : The parts with marked (*) is not used.

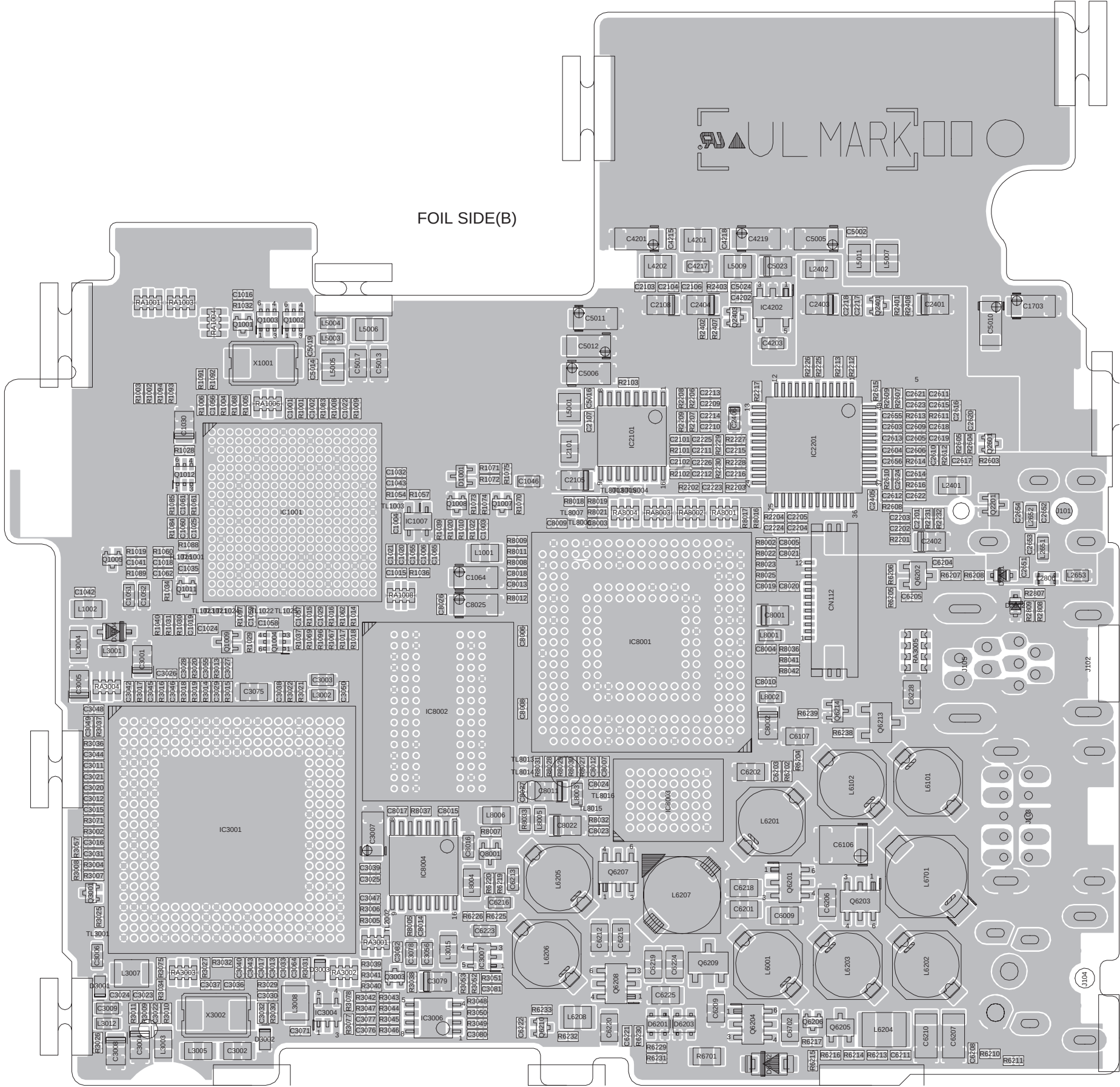
SD SCHEMATIC DIAGRAM



NOTE : The parts with marked (*) is not used.

■ MAIN CIRCUIT BOARD

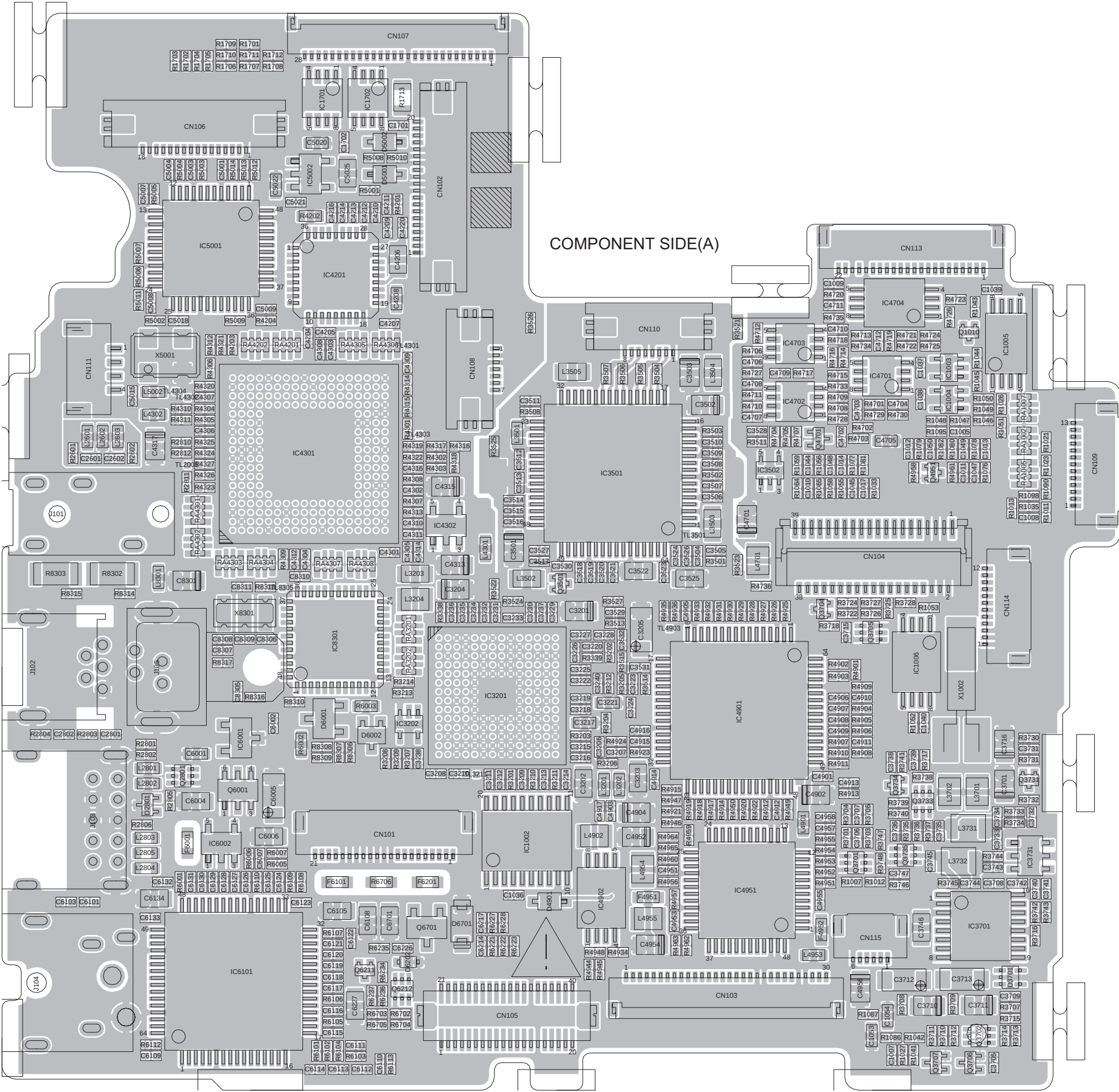
<01> MAIN
YB10456-01-01



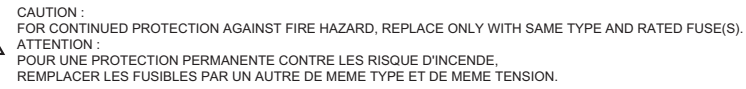
■ MAIN CIRCUIT BOARD

<01> MAIN
YB10456-01-01

CAUTION :
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).
ATTENTION :
POUR UNE PROTECTION PERMANENTE CONTRE LES RISQUE D'INCENDIE,
REMPLACER LES FUSIBLES PAR UN AUTRE DE MEME TYPE ET DE MEME TENSION.



<03> MDA
YB10459-01-01



<04> FRONT
YB10460-01-01



<02> CCD
YB10458-01-01

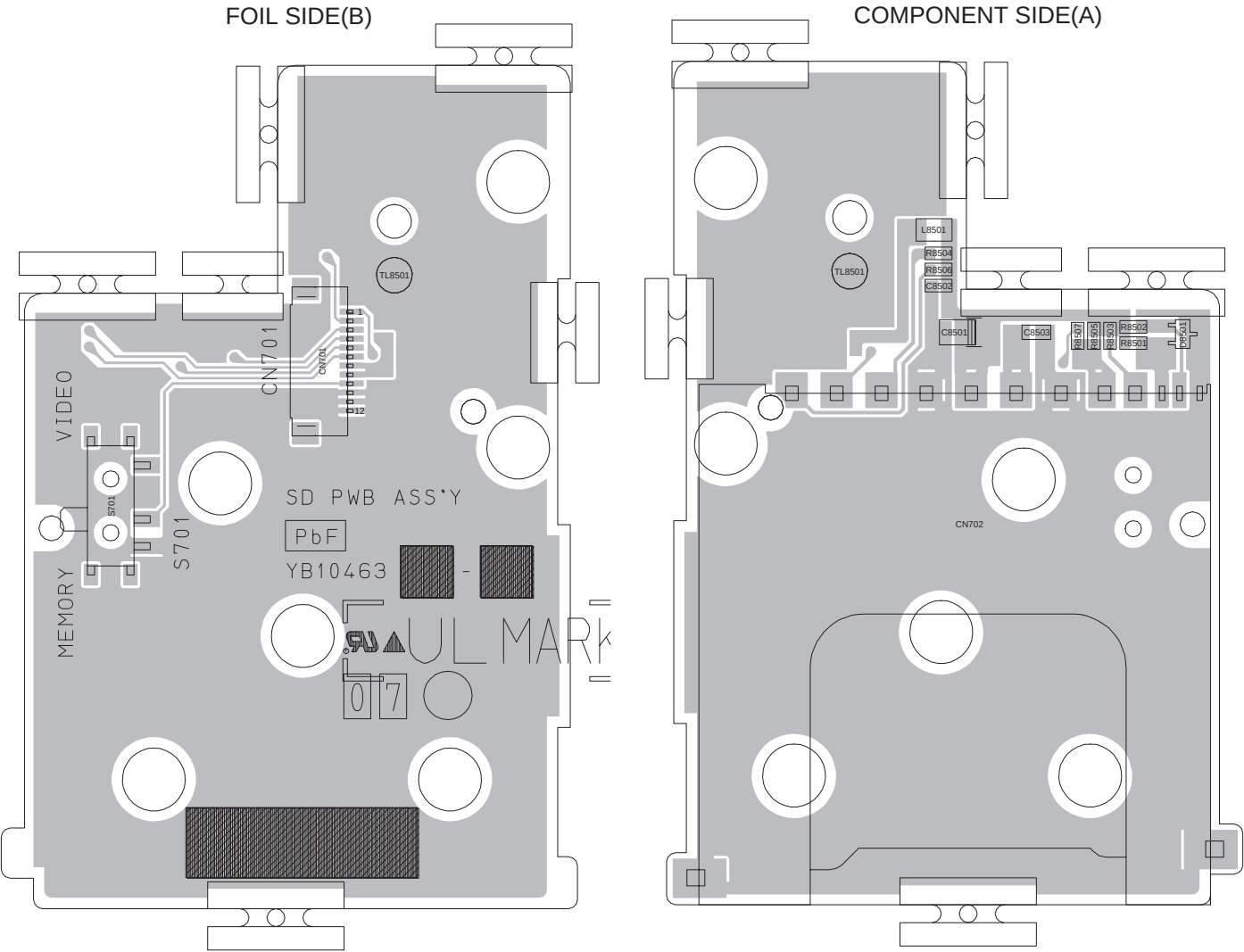


CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).
ATTENTION : POUR UNE PROTECTION PERMANENTE CONTRE LES RISQUE D'INCENDIE, REMPLACER LES FUSIBLES PAR UN AUTRE DE MEME TYPE ET DE MEME TENSION.

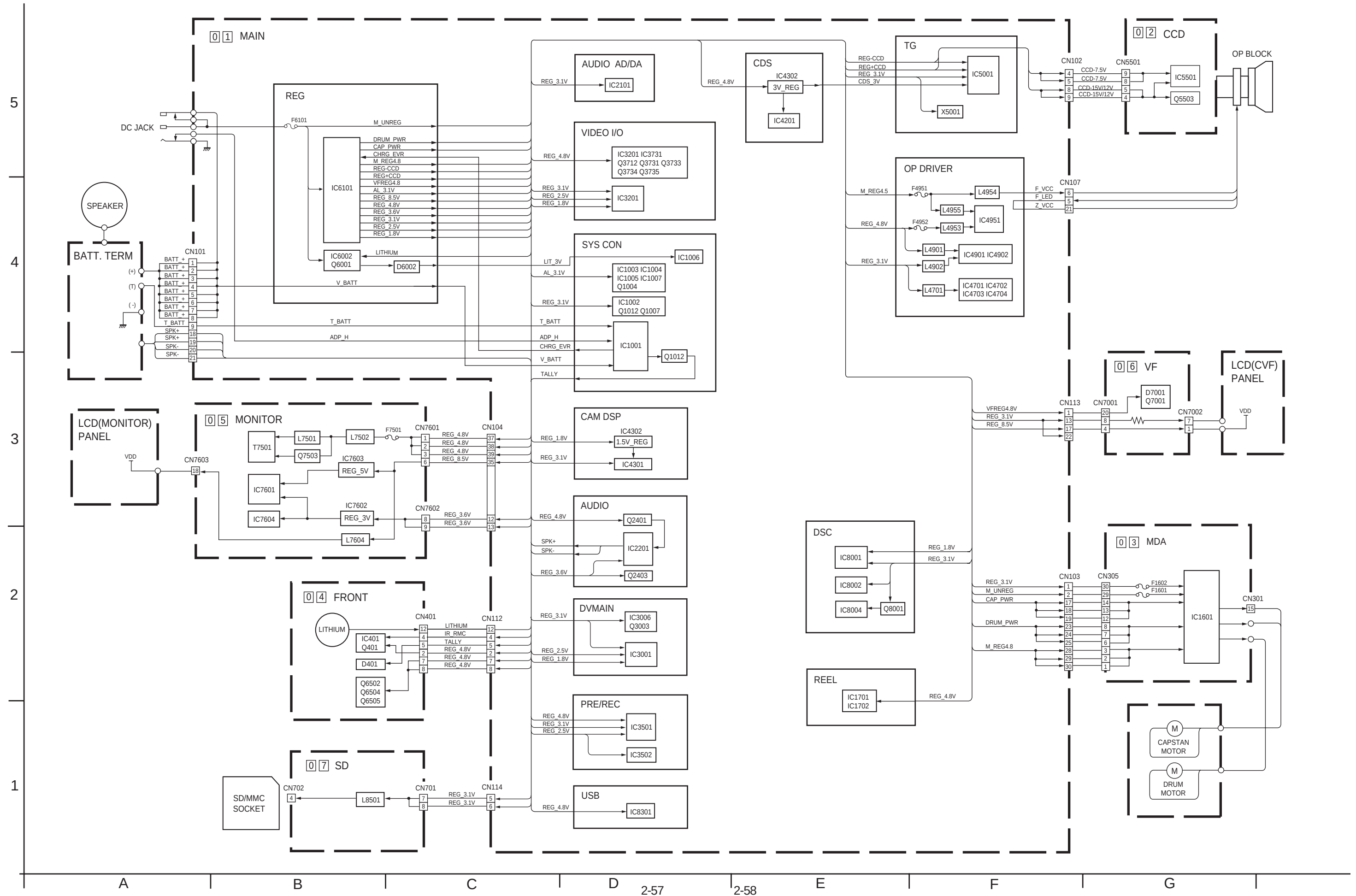


SD CIRCUIT BOARD

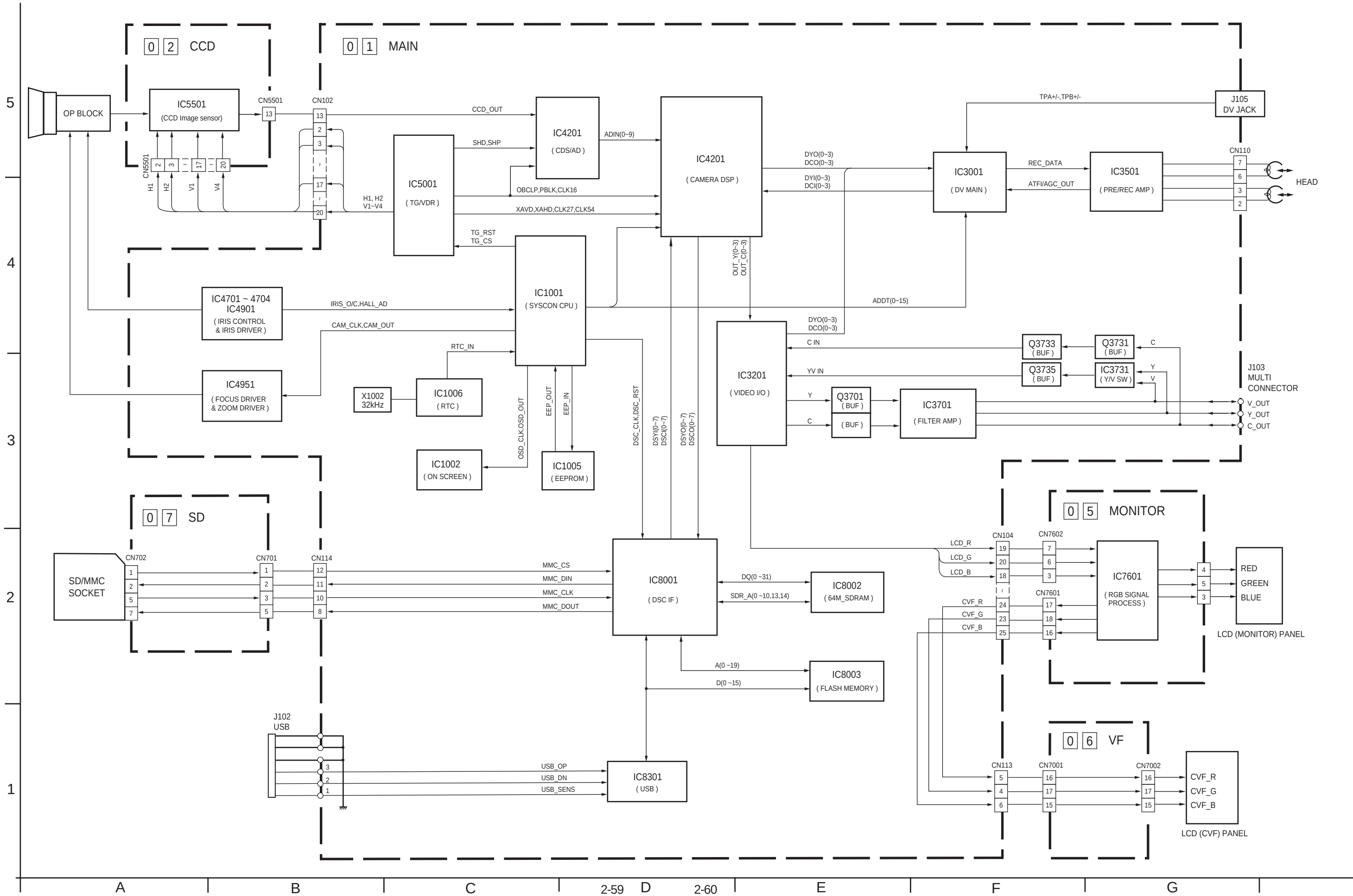
<07> SD
YB10463



■ POWER SYSTEM BLOCK DIAGRAM



VIDEO SYSTEM BLOCK DIAGRAM



■ VOLTAGE CHARTS

<MAIN IF>		
MODE PIN NO.	REC	PLAY
Q2801		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0

<CPU>		
MODE PIN NO.	REC	PLAY
IC1001	-	-
IC1002		
1	2.8	2.8
2	2.4	2.4
3	2.7	2.7
4	3.0	3.0
5	3.0	3.1
6	3.0	3.1
7	0	0
8	1.4	1.5
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	2.9	3.0
20	2.8	2.8
IC1003		
1	0	0
2	3.0	3.0
3	0	0
4	3.0	3.0
5	3.0	0
IC1004		
1	1.4	1.4
2	0	0
3	1.2	1.2
4	0	0
5	3.0	3.1
IC1005		
1	3.0	3.1
2	0	0
3	3.0	3.1
4	0	0
5	3.0	3.1
6	3.0	3.0
7	3.0	3.1
8	3.0	3.0
IC1006		
1	0	0
2	3.0	3.0
3	3.0	3.0
4	0	0
5	3.0	3.0
6	0.4	0.4
7	0.4	0.4
8	3.2	3.2
IC1007		
1	3.1	3.1
2	3.0	3.0
3	0	0
4	0	0
Q1001		
E	3.0	3.1
C	3.0	3.1
B	3.0	3.1
Q1002		
1	0	0
2	3.0	3.0
3	2.9	2.9
4	3.0	3.1
5	0	0
6	0	0
Q1003		
1	0	0
2	0	0
3	-0.1	-0.2
4	3.0	3.1
5	3.0	3.0
6	3.0	3.0
Q1004		
1	0	0
2	3.0	3.1
3	3.0	3.1
4	3.0	3.1
5	0	0
6	0	0
Q1005		
E	0	0
C	0.2	0.2
B	0	0
Q1007		
E	0	0
C	3.1	3.0
B	0.5	0.5
Q1008		
E	0	0
C	0	0
B	0	3.1
Q1009		
S	0	0
D	3.0	3.0
G	3.0	3.0

MODE PIN NO.	REC	PLAY
Q1010		
E	0	0
C	3.0	3.0
B	0	0
Q1011		
E	0	0
C	0.1	0.2
B	0	0
Q1012		
1	0	0
2	3.0	0
3	3.0	0
4	3.0	3.0
5	0	3.1
6	0	0

<REEL>		
MODE PIN NO.	REC	PLAY
IC1701		
1	-	-
2	1.4	1.5
3	1.5	1.4
4	0	0
5	1.4	1.5
6	0	1.4
7	-	-
8	4.7	4.8
IC1702		
1	-	-
2	1.5	0
3	-	-
4	0	0
5	-	-
6	1.4	1.5
7	-	-
8	4.7	4.7

<AUDIO>		
MODE PIN NO.	REC	PLAY
IC2201		
1	0	1.6
2	0	0
3	0	1.5
4	3.0	3.0
5	3.1	3.1
6	0	0
7	1.5	1.5
8	1.4	1.4
9	1.5	1.5
10	3.0	3.0
11	2.9	2.9
12	0	3.0
13	1.4	1.4
14	1.5	1.2
15	2.8	2.7
16	0	0
17	0	1.4
18	0	0.3
19	1.4	0
20	0	0.3
21	1.4	1.3
22	0	2.4
23	1.3	1.4
24	0	2.3
25	0.7	1.4
26	0	0
27	0	0
28	4.8	4.8
29	0	0
30	0	2.4
31	0	0
32	2.8	2.8
33	1.4	1.4
34	0.2	1.4
35	0.2	1.4
36	1.4	1.4
37	1.4	1.4
38	1.4	1.3
39	1.4	0
40	1.4	0
41	0	0
42	4.0	4.4
43	2.7	0
44	4.0	4.4
45	1.4	0
46	1.4	0
47	1.4	1.2
48	1.4	1.4
Q2201		
E	0	0
C	1.3	1.4
B	0	0
Q2401		
E	4.0	4.4
C	4.7	4.8
B	4.7	4.8
Q2403		
E	2.8	2.8
C	3.5	3.6
B	3.5	3.4

<AUDIO AD/DA>		
MODE PIN NO.	REC	PLAY
IC2101		
1	0	0
2	0	0
3	0	0
4	0	0
5	3.0	3.1
6	3.0	3.1
7	0	0
8	0	0
9	0.2	0.3
10	0.2	0.3
11	0.4	0.4
12	0.2	0
13	0	0
14	0	0
15	0	0
16	0	0

<DV MAIN>		
MODE PIN NO.	REC	PLAY
IC3001	-	-
IC3006		
1	0	0.4
2	0	0.4
3	0	0
4	2.1	2.2
5	0.9	0.9
6	0	0
7	3.0	3.1
8	1.2	1.7
Q3001		
E	1.7	1.7
C	2.9	2.9
B	2.4	2.4
Q3003		
E	0.7	1.2
C	2.9	3.1
B	1.3	1.7

<PRE/REC>		
MODE PIN NO.	REC	PLAY
IC3501	-	-
IC3502		
1	1.3	0
2	1.3	0
3	0	0
4	0.7	3.1
5	3.0	3.0

<VIDEO I/O>		
MODE PIN NO.	REC	PLAY
IC3201	-	-
IC3701		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	3.0
6	0	0
7	0	0
8	0	0
9	0	0
9	4.7	4.8
10	0	0
11	0	0
12	1.4	1.4
13	2.9	3.0
14	2.5	0
14	2.3	1.2
15	4.7	4.8
16	0	0
IC3731		
1	3.0	3.0
2	1.1	1.2
3	4.7	4.8
4	1.3	1.3
5	0	0
6	1.5	1.4
Q3701		
1	0.6	0.5
2	0	0
3	0	0
4	1.3	1.3
5	0.7	0.7
6	0	0
Q3702		
1	0	0
2	0	0
3	0	0
4	4.7	4.8
5	4.3	4.3
6	4.3	4.3
Q3704		
E	0.7	0.7
C	0	0
B	0	0
Q3705		
1	0.7	0.6
2	0	0
3	0	0
4	0.6	0.7
5	0	0
6	0	0
Q3706		
E	0	0
C	0	0
B	0	0
Q3707		
E	0	0
C	0	0
B	0	0
Q3731		
E	0	0
C	4.7	4.8
B	0	0
Q3733		
1	1.7	1.7
2	2.3	2.3
3	2.7	2.8
4	4.7	4.8
5	4.1	4.2
6	4.1	4.2
Q3734		
E	2.1	2.2
C	4.7	4.8
B	2.7	2.7
Q3735		
1	0	0
2	0	0
3	0	0
4	1.4	1.4
5	0.8	0.9
6	4.7	4.7

<CDS>		
MODE PIN NO.	REC	PLAY
IC4201		
1	1.1	0
2	0.8	3.0
3	0.4	3.0
4	0	0
5	0	3.0
6	0	0
7	0	0
8	0	0
9	1.0	0
10	3.0	3.0
11	0	0
12	1.4	1.4
13	2.9	3.0
14	2.5	0
15	3.0	0
16	2.3	0
17	2.3	0
18	0	0
19	2.9	3.0
20	1.9	0
21	1.9	0
22	1.9	1.5
23	0	0
24	1.2	0
25	2.9	3.0
26	0	0
27	0	0
28	1.4	0
29	1.9	0
30	0.8	0
31	2.9	3.0
32	0	0
33	3.0	3.1
34	3.0	3.0
35	3.0	3.0
36	1.2	0
IC4202		
1	4.7	4.8
2	0	0
3	1.2	1.3
4	2.9	3.0
5	4.7	4.8

<CAMERA DSP>		
MODE PIN NO.	REC	PLAY
IC4301	-	-
IC4302		
1	1.7	1.7
2	0	0
3	1.7	1.7
4	1.6	1.8
5	1.3	1.5

<OP DRIVER>		
MODE PIN NO.	REC	PLAY
IC4701		
1	2.4	2.5
2	1.9	2.0
3	1.9	2.0
4	0	0
5	1.9	1.9
6	1.9	1.9
7	0	1.9
8	4.7	4.8
IC4702		
1	0.7	0.8
2	0.1	0.2
3	0.2	0.2
4	0	0
5	1.9	2.0
6	1.9	1.9
7	2.0	0.6
8	4.7	4.7
IC4703		
1	0.9	0
2	1.9	0.5
3	1.9	0
4	0	0
5	0	0
6	0	0
7	0	0
8	4.7	4.7
IC4704		
1	1.8	1.8
2	1.8	2.0
3	1.9	2.0
4	0	0
5	2.0	2.0
6	1.8	2.0
7	2.0	2.2
8	4.7	4.7
IC4901		
1	0	0
2	0	0
3	0	0
4	3.0	3.0
5	3.0	3.0
6	0	0.3
7	0	0.1
8	3.0	3.1
9	3.0	3.0
10	1.5	1.5
11	0	2.9
12	0.2	2.8
13	0	0
14	0	0
15	0	0
16	3.0	3.1
17	1.4	1.4
18	1.2	1.2
19	0.4	0.5
20	0.3	0.4
21	1.7	1.7
22	1.4	1.4
23	2.3	2.4
24	0.4	0.4
25	0.6	0.7
26	3.0	3.0
27	0	0
28	2.9	3.1
29	0	0
30	4.4	4.6
31	4.4	4.5
32	4.4	4.5
33	0	0
34	0	0
35	0	0
36	0	0
37	2.2	0
38	0	2.4
39	0	0
40	3.0	4.7
41	0	0
42	2.6	4.7
43	0	0
44	0	4.7
45	0	0
46	4.6	4.8
47	0	0
48	0	0.2
49	4.4	4.5
50	3.1	4.2
51	3.1	4.2
52	0	2.4
53	0.9	1.0
54	2.4	2.4
55	2.3	2.3
56	2.4	2.4
57	3.2	3.2
58	2.3	2.4
59	4.7	4.8
60	0	0
61	3.1	3.0



VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY CAMCORDER CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.YF034)



Printed in Japan
WPC

PARTS LIST

SAFETY PRECAUTION

Parts identified by the $\triangle$ symbol are critical for safety. Replace only with specified part numbers.

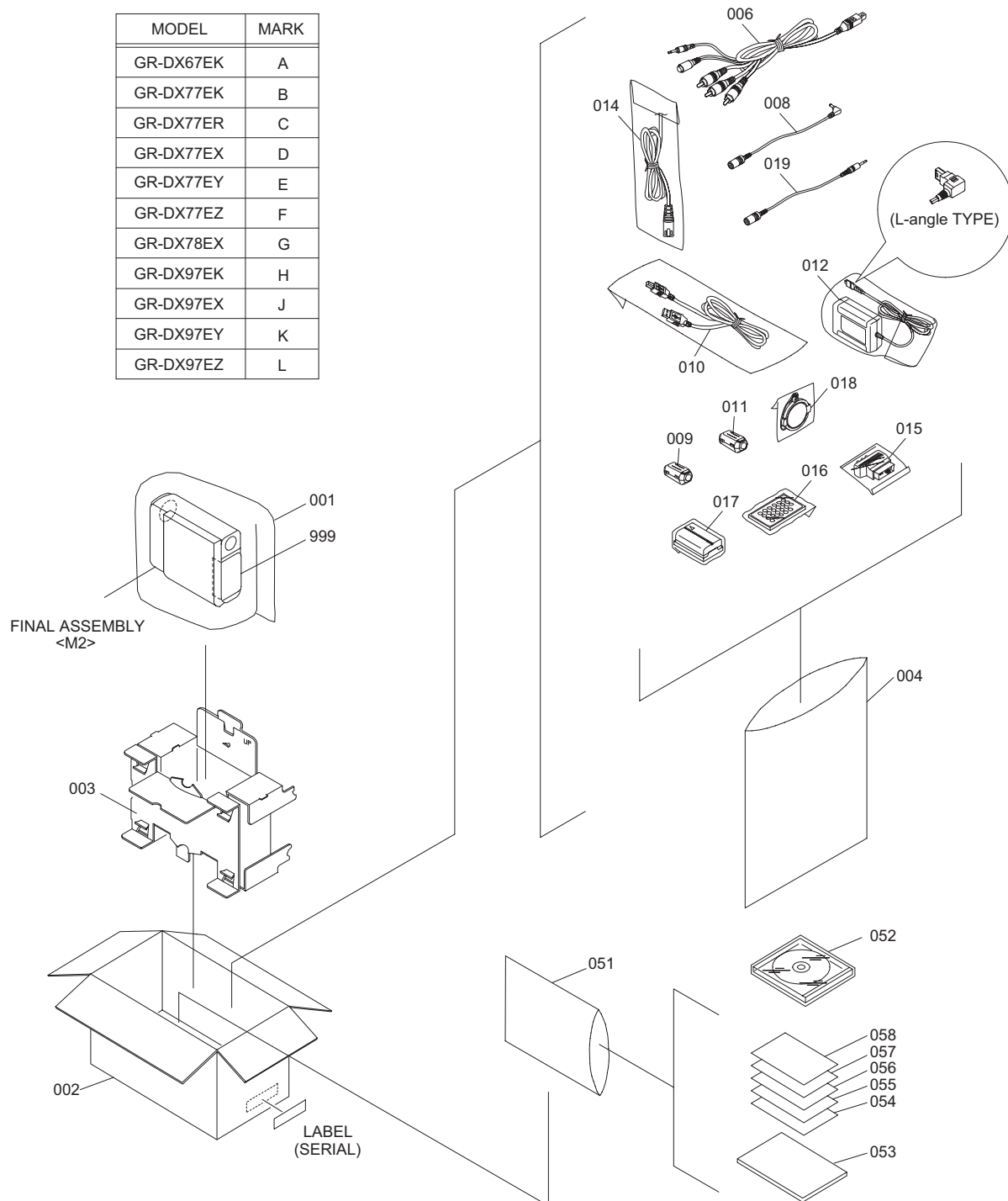
BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

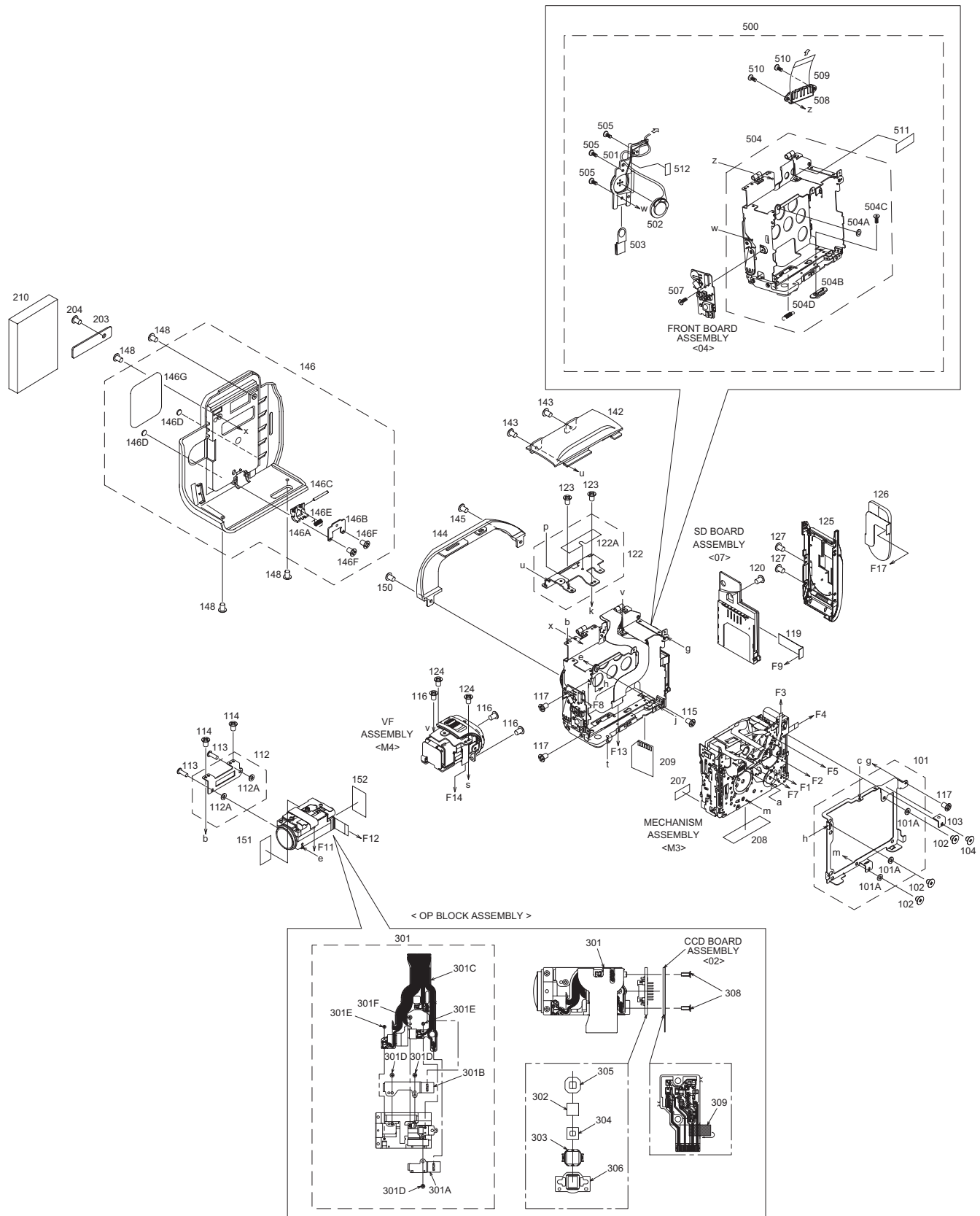
1. EXPLODED VIEW

1.1 PACKING AND ACCESSORY ASSEMBLY <M1>

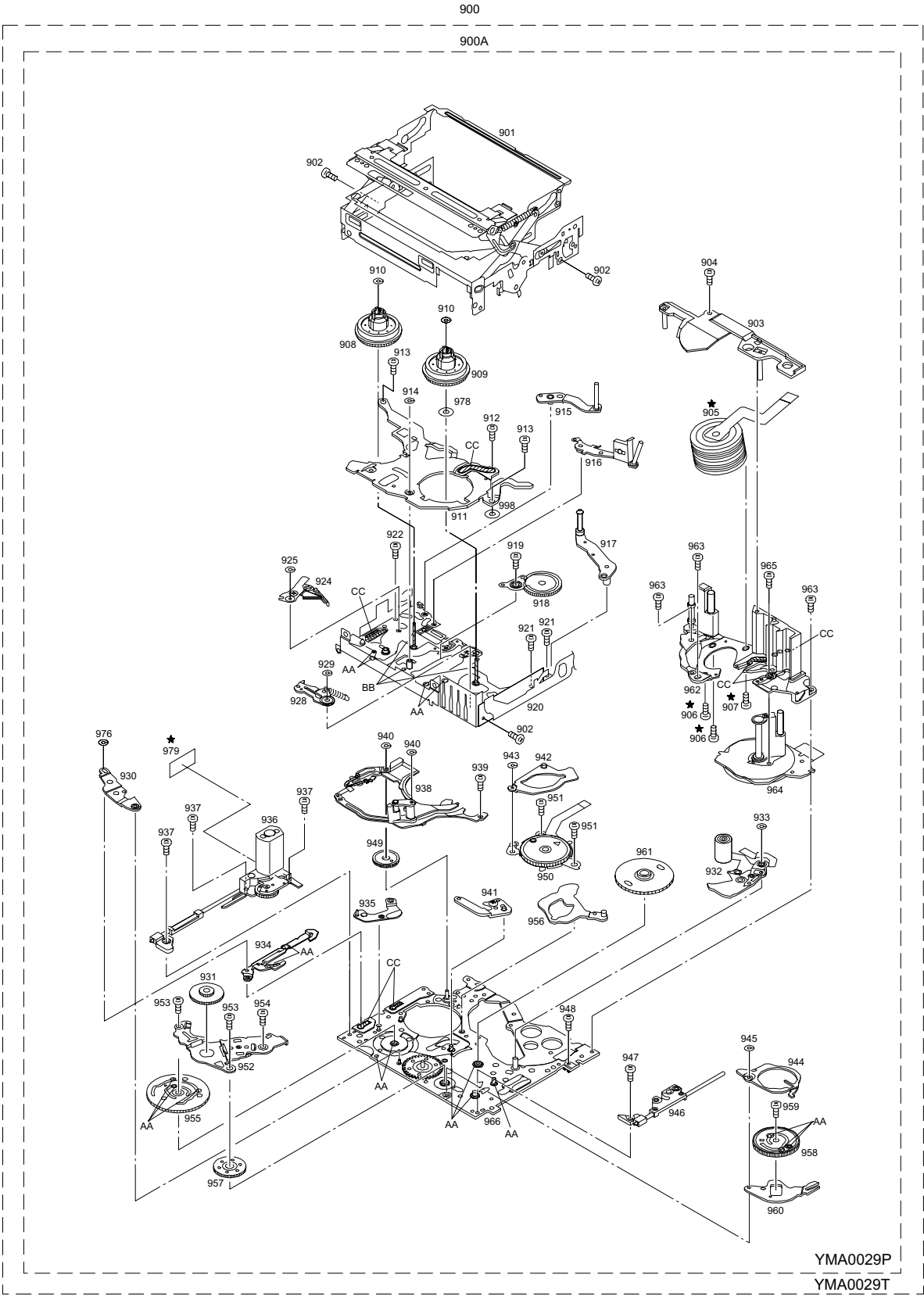
The instruction manual to be provided with this product will differ according to the destination.



1.2 FINAL ASSEMBLY <M2>



1.3 MECHANISM ASSEMBLY <M3>

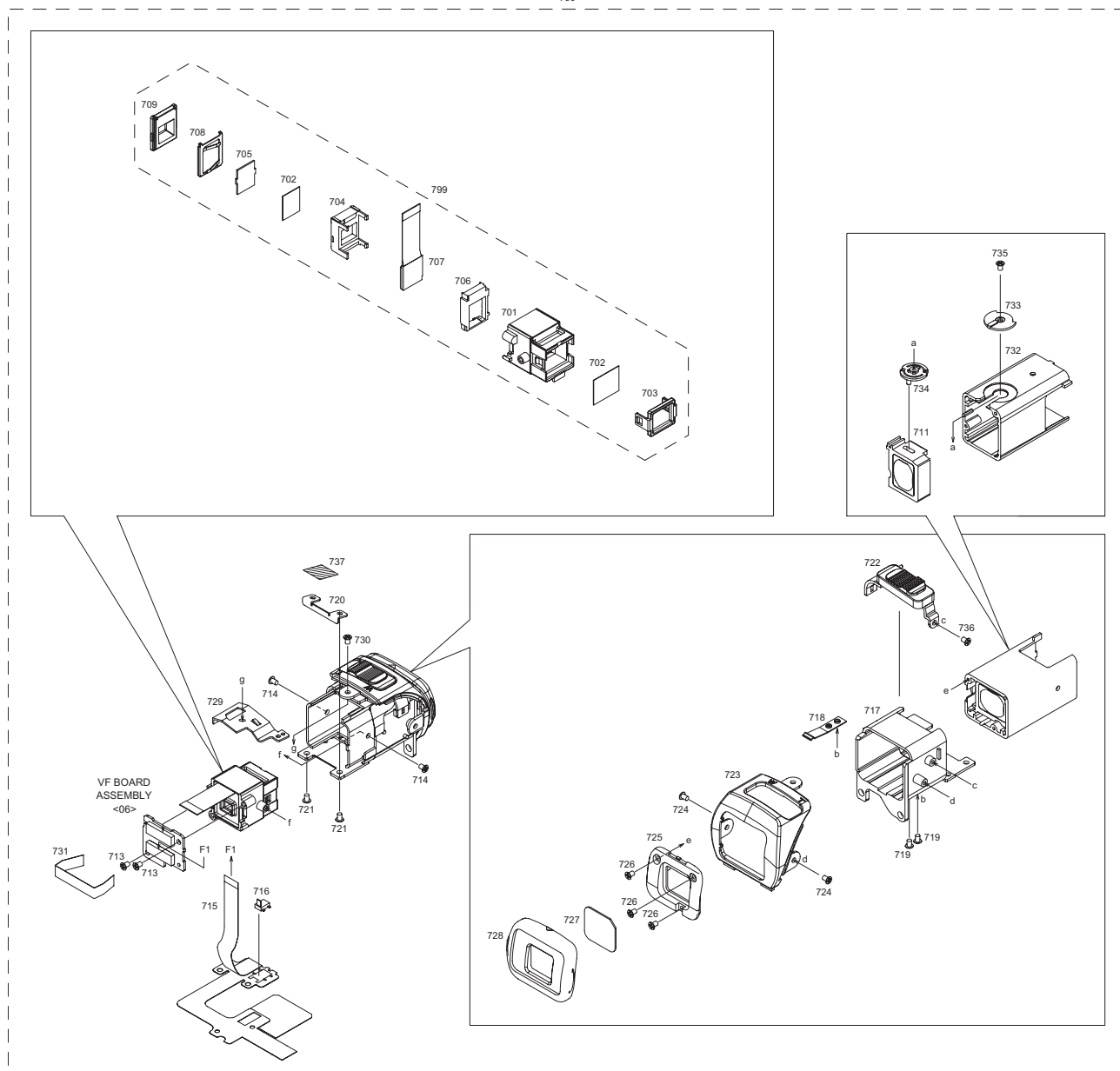


Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

NOTE1: The section marked in AA, BB and CC indicate lubrication and greasing areas.
NOTE2: Mark ★ is not contained in 900A.

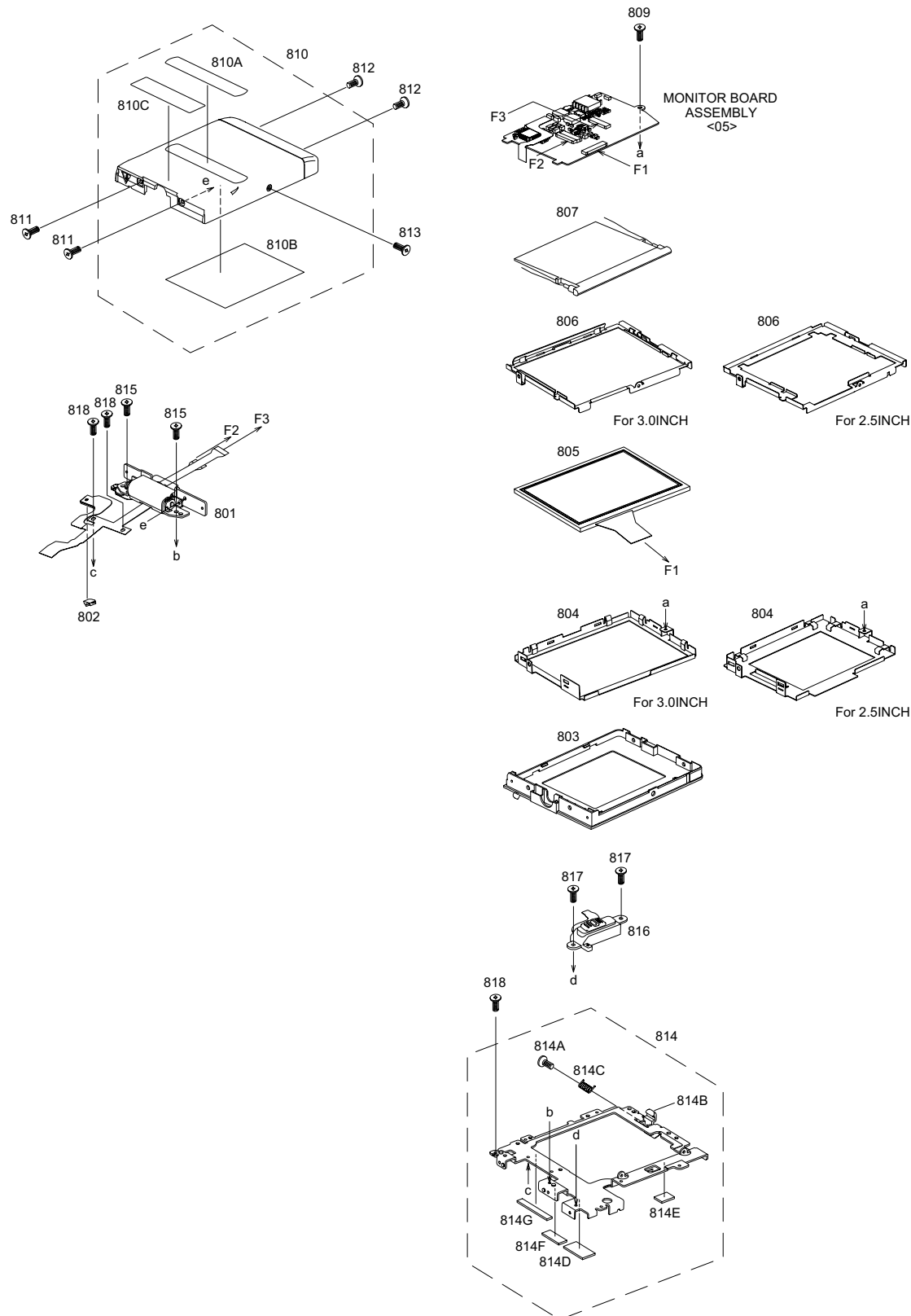
1.4 VF(COLOR) ASSEMBLY <M4>

700



1.5 MONITOR ASSEMBLY <M5>

800



MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

2. PARTS LIST

PACKING AND ACCESSORY ASSEMBLY <M1>

△ Symbol No.	Part No.	Part Name	Description	Local
001	LY30023-003A	POLY BAG		
002	LY33819-001A	PACKING CASE	JVM	BCDEFHJKL
002	LY33819-010A	PACKING CASE	JVM	G
002	LY33819-011A	PACKING CASE		A
003	LY21227-001B	CUSHION		
004	QPA02503505P	POLY BAG	25cm x 35cm	
006	QAM0542-001	MULTI CABLE	MULTI	
008	QAM0572-001	AUDIO CABLE	MIC	
009	QQR0917-002	CORE FILTER	MIC 2T	
010	QAM0538-001	USB CABLE	USB	
011	QQR0491-002	FERRITE CORE	USB 1T	
△ 012	LY21104-012A	AC ADAPTER	L-ANGLE TYPE AP-V14E	
△ 012	or LY21153-003A	AC ADAPTER	L-ANGLE TYPE AP-V15E	
△ 014	QMPL270-190-JR	POWER CORD(EK)	CEE PULG 1.9m BLACK	CDEFHJKL
△ 014	QMPP210-190-JR	POWER CORD(EK)	BS PULG 1.9m BLACK	ABH
015	QAM0302-001	ADAPTOR PLUG	PERI-RCAS	
016	LY21185-002A	REMOTE CONTROL UNIT	RM-V719U	G
016	LY21186-002A	REMOTE CONTROL UNIT	RM-V720U	ABCEFGHJKL
△ 017	LY32203-003A	BATTERY PACK ASSY	BN-V107U-S	
018	LY33772-001D	HOOD CAP ASSY		
019	QAM0515-001	RM CABLE	EDIT EXT	G
051	QPA02003506	POLY BAG	DOCUMENT 20cm x 35cm	CDEFHJKL
051	YQM30061-3	POLY BAG	DOCUMENT	ABH
052	LY32210-081B	CD ROM ASSY		ABDGHJ
052	LY32210-082C	CD ROM ASSY		CEFKL
△ 053	LYT1246-001A	INST BOOK(EN)	(ENGLISH)	ABH
△ 053	LYT1246-002A	INST BOOK(GE)	(GERMAN)	DEJK
△ 053	LYT1246-003A	INST BOOK(FR)	(FRENCH)	DJ
△ 053	LYT1246-004A	INST BOOK(DU)	(DUTCH)	DJ
△ 053	LYT1246-005A	INST BOOK(SP)	(SPANISH)	DJ
△ 053	LYT1246-006A	INST BOOK(IT)	(ITALIAN)	DJ
△ 053	LYT1246-007A	INST BOOK(DA)	(DANISH)	EK
△ 053	LYT1246-008A	INST BOOK(FI)	(FINN)	EK
△ 053	LYT1246-009A	INST BOOK(SW)	(SWEDISH)	EK
△ 053	LYT1246-010A	INST BOOK(NO)	(NORWEGIAN)	EK
△ 053	LYT1246-011A	INST BOOK(RU)	(RUSSIAN)	CFL
△ 053	LYT1246-012A	INST BOOK(CZ)	(CZECH)	FL
△ 053	LYT1246-013A	INST BOOK(PO)	(POLISH)	FL
△ 053	LYT1246-014A	INST BOOK(HU)	(HUNGARIAN)	FL
△ 053	LYT1246-015A	INST BOOK(PT)	(PORTUGUESE)	DJ
△ 053	LYT1248-001A	INST BOOK(EN)	(ENGLISH)	G
054	LYT1247-001A	INST BOOK(SOFT.EN)	(SOFT.ENGLISH)	ABGH
054	LYT1247-002A	INST BOOK(SOFT.GE)	(SOFT.GERMAN)	DEJK
054	LYT1247-003A	INST BOOK(SOFT.FR)	(SOFT.FRENCH)	DJ
054	LYT1247-004A	INST BOOK(SOFT.DU)	(SOFT.DUTCH)	DJ
054	LYT1247-005A	INST BOOK(SOFT.SP)	(SOFT.SPANISH)	DJ
054	LYT1247-006A	INST BOOK(SOFT.IT)	(SOFT.ITALIAN)	DJ
054	LYT1247-007A	INST BOOK(SOFT.DA)	(SOFT.DANISH)	EK
054	LYT1247-008A	INST BOOK(SOFT.FI)	(SOFT.FINN)	EK
054	LYT1247-009A	INST BOOK(SOFT.SW)	(SOFT.SWEDISH)	EK
054	LYT1247-010A	INST BOOK(SOFT.NO)	(SOFT.NORWEGIAN)	EK
054	LYT1247-011A	INST BOOK(SOFT.RU)	(SOFT.RUSSIAN)	CFL
054	LYT1247-018A	INST BOOK(SOFT.PT)	(SOFT.PORTUGUESE)	DJ
055	-----	WARRANTY CARD		CDEFHJKL
056	LYT0194-001B	Q.CARD		ABH
057	YU30878	REGIST. CARD		ABH
058	BT-54008-6	GUARANTY CARD		ABH
999	LY44670-001A	SHEET		

FINAL ASSEMBLY <M2>

△ Symbol No.	Part No.	Part Name	Description	Local
101	LY34147-001A	BKT(MECHA)ASSY		
101A	LY42796-001A	BUSH	(x3)	
102	LY30032-002A	SPECIAL SCREW	MECHA-BKT(x3)	
103	LY34174-001A	BKT(PRE-REC)		
104	LY30031-015A	SPECIAL SCREW	BKTP/R-MEC	
106	LY30031-015A	SPECIAL SCREW	MDAPWB-MEC(x2)	
108	WJT0137-001B	E-CARD WIRE	FRONT-MAIN	
109	LY34061-001A	SHIELD COVER		
110	LY30031-041A	SPECIAL SCREW	SH.P/R-M.B(x2)	

△ Symbol No.	Part No.	Part Name	Description	Local
111	LY30034-054A	SPACER(A)	SENSOR FPC	
112	LY33959-001A	BRACKET(OP)ASSY		
112A	LY42796-003A	BUSH	(x2)	
113	LY30032-007A	SPECIAL SCREW	OP-OP BKT(x2)	
114	LY30031-016A	SPECIAL SCREW	OP/BKT-ARM(x2)	
115	LY30032-007A	SPECIAL SCREW	ARM-OP	
116	LY30031-016A	SPECIAL SCREW	VF-ARM(x3)	
117	LY30031-016A	SPECIAL SCREW	M.BKT-ARM(x3)	
119	WJT0143-001A	E-CARD WIRE	SD-MAIN	
120	LY30031-016A	SPECIAL SCREW	SD PWB-ARM	
121	LY30031-016A	SPECIAL SCREW	FRMUP-ARM(x5)	
122	LY34230-001A	BKT(TOP)ASSY	JVM	
122A	LY44634-001A	SPACER	JVM	
123	LY30031-016A	SPECIAL SCREW	BKTT1-ARM(x2)	
124	LY30031-016A	SPECIAL SCREW	BKTT2-ARM(x2)	
125	LY33785-001H	REAR COVER ASSY(SD)		
126	LY33787-001C	CAMERA OPE UNIT		
127	LY30031-016A	SPECIAL SCREW	REAR-ARM(x2)	
128	LY21122-001G	FRONT COVER ASSY	JVM	BCDEFHJKL
128	LY21122-007C	FRONT COVER ASSY	JVM	G
128	LY21122-008C	FRONT COVER ASSY	JVM	A
128A	LY33763-001A	RING		
128B	LY33764-001B	HOOD		
128C	LY30031-039A	SPECIAL SCREW	(x3)	
128D	LY30034-077A	SPACER(A)		
129	LY33770-001B	MIC ASSY		
130	LY44631-001A	BKT(MIC) ASSY	JVM	
130A	LY30034-058A	SPACER(A)	JVM	
131	LY30031-031A	SPECIAL SCREW	HOLDER-FRT(x2)	
132	LY30031-016A	SPECIAL SCREW	FRONT-ARM(x5)	
△ 133	LY33901-001F	UPPER CASE ASSY		
133A	LY44602-001B	SHEET(CAUTION)		
133B	LY42350-001A	FOOT	(x4)	
134	LY33784-001A	SUB OPE UNIT		
135	LY30031-016A	SPECIAL SCREW	UPPR-FRMUP(x4)	
136	LY33905-001C	COVER(DV)ASSY		
137	LY33776-001F	SIDE COVER(L)ASSY		
138	LY30031-016A	SPECIAL SCREW	SCOVL-FRM(x4)	
139	LY30031-016A	SPECIAL SCREW	SCOVL-BKTT(x2)	
141	LY30031-0E7A	SPECIAL SCREW	SCOVL-FRMU	
142	LY21127-001B	TOP COVER		BCDEFHJKL
142	LY21127-004A	TOP COVER		A
143	LY30031-016A	SPECIAL SCREW	TPCOV-BKTT(x2)	
144	LY21124-001B	SIDE COVER(R)		
145	LY30031-027A	SPECIAL SCREW	SCOV-R-ARM	
△ 146	LY33778-001F	CASSETTE COVER ASSY		
146A	LY33779-001B	KNOB(B.LOCK)		
146B	LY33780-001B	HOLDER(B.LOCK)		
146C	LY44442-001A	SPRING SHAFT		
146D	LY42350-001A	FOOT	(x2)	
146E	LY44600-001B	TORSION SPRING		
146F	LY30031-002A	SPECIAL SCREW	HOLDER-RCA(x2)	
△ 146G	LY34169-001A	LABEL(C.COVER)		
147	LY33782-001A	HOOK(F)		
148	LY30031-016A	SPECIAL SCREW	C.COV-ARM(x4)	
149	LY30031-016A	SPECIAL SCREW	HOOK-ARM(x2)	
150	LY30031-016A	SPECIAL SCREW	SCOV-R-ARMF	
151	LY30034-044A	SPACER(A)	OP FPC	
152	LY44619-001A	SPACER	CCD PWB	
201	LY44560-001A	COVER(JIG CON)		
202	LY30031-016A	SPECIAL SCREW	COVJIG-FRM	
203	LY34157-001B	COVER(ADJ)		
204	LY30031-016A	SPECIAL SCREW	COVADJ-ARM	
205	LY33907-001C	JACK COVER ASSY		
206	LY21225-001B	GRIP BELT ASSY		
207	LY40699-002A	LABEL(PUSH)		
208	LY32001-004A	LABEL(HOUSING)		
209	QAM0404-002	MEMORY CARD	MMC 8MB*	
210	LY34218-001B	DUMMY BATTERY		
212	LY30031-023A	SPECIAL SCREW	SCOV-FRONT	
213	LY30034-060A	SPACER(A)	F-WINDOW	
301	J3H-101A	OP BLOCK ASSY		
301A	LY44455-001A	J3H FOCUS MOTOR		
301B	LY44456-001A	J3H ZOOM MOTOR		
301C	LY44457-001B	J3H IRIS		
301D	QYSPSGU1430ZA	TAP SCREW	(x3)	
301E	LY44596-001A	SPECIAL SCREW	(x2)	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local
301F	LY44613-001A	SPECIAL SCREW		
302	LY44458-001A	OP LPF		
303	LY33816-001A	LPF HOLDER		
304	LY44461-001A	MASK		
305	LY44462-001B	SHEET		
306	LYH30547-001A	CCD BASE ASSY		
308	LY44482-001B	SPECIAL SCREW	(x2)	
309	LY30034-043A	SPACER(A)	CCD FPC	
500	LU04D301C	LOWER UNIT ASSY	JAPAN	
501	LY33962-001D	COVER(SPK)		
502	QAS0196-001	SPEAKER		
503	LY33967-001B	BKT(SPEAKER)		
504	LY21190-001D	ARM ASSY		
504A	LY42796-003A	BUSH		
504B	LY34175-001A	KNOB(LOCK)		
504C	QYSPSGT1730ZA	TAP SCREW	KNOB	
504D	LY30001-023A	TENSION SPRING		
505	LY30031-016A	SPECIAL SCREW	COV(SPK-AR)(x3)	
507	LY30031-016A	SPECIAL SCREW	FRONT P-ARM	
508	LY32575-002A	BATTERY TERNIMAL		
509	QAL0549-001	FPC	BATT FPC	
510	LY30031-016A	SPECIAL SCREW	BATT.TE-AR(x2)	
511	LY30034-031A	SPACER(A)		
512	LY30034-056A	SPACER(A)		

*NOTE:
DATA FILE is not contained in MEMORY CARD of the service part.

△ Symbol No.	Part No.	Part Name	Description	Local
946	LYH40271-001A	BASE R ASSY		
947	YQ43893	MINI SCREW		
948	LY41945-001B	MINI SCREW		
949	LY43665-001A	MODE GEAR		
950	QSW0876-005	ROTARY ENCODER		
951	YQ43893	MINI SCREW	(x2)	
952	LY32860-001D	GEAR COVER ASSY		
953	YQ43893	MINI SCREW	(x2)	
954	YQ43893-4	MINI SCREW		
955	LY43676-001A	MAIN CAM ASSY		
956	LY41941-001B	SLIDE ARM ASSY		
957	LY43678-001A	CONNECT GEAR 2		
958	LY43679-001C	SUB CAM ASSY		
959	LY42120-001A	MINI SCREW		
960	LY43692-001A	CONTROL ARM ASSY		
961	LY32859-001A	REEL GEAR 1		
962	LY31508-004D	DRUM BASE ASSY		
963	LY43675-006B	MINI SCREW	(x3)	
964	QAR0142-001	CAPTAN MOTOR		
965	YQ43893	MINI SCREW		
966	LY10367-001L	MAIN DECK ASSY		
976	YQ44246	SLIT WASHER		
978	LY44609-001A	WASHER		
979	LY44502-001A	SPACER	JVM/BJVC	
998	QYWFM163013	WASHER	6.3mm/21.1mm x 0.01mm	

VF ASSEMBLY <M4>

MECHANISM ASSEMBLY <M3>

△ Symbol No.	Part No.	Part Name	Description	Local
900	YMA0029T	MECHA(A)ASSY	Y/E Y07442	
900A	YMA0029P	MECHA(A)ASSY	JVM/BJVC	
901	LY32870-001Q	CASSETTEHOUSING ASSY		
902	YQ43893-8	MINI SCREW	(x3)	
903	LYH30420-001A	UPPER BASE ASSY		
904	QYSPSPU1425M	SCREW	M1.4 x 2.5mm	
905	YDV2102B	DRUM ASSY	M/B SET022	
906	LY44533-001A	DAMPER SCREW ASSY	JVM/BJVC(x2)	
907	LY44533-002A	DAMPER SCREW ASSY	JVM/BJVC	
908	LY31538-001F	REEL DISK ASSY		
909	LY31538-002H	REEL DISK ASSY		
910	YQ44246	SLIT WASHER	(x2)	
911	LY10372-001H	REEL COVER ASSY		
912	LY42120-002A	MINI SCREW		
913	LY41945-003A	MINI SCREW	(x2)	
914	YQ44246	SLIT WASHER		
915	LY43725-001F	TENSION ARM ASSY		
916	LYH40269-001A	SLANT POLE ARM ASSY		
917	LY43731-001F	TAKE UP ARM ASSY		
918	LY31531-001E	SWING ARM ASSY		
919	YQ43893-9	MINI SCREW		
920	LYH30424-001A	SLIDE DECK FINAL ASSY		
921	YQ43893	MINI SCREW	(x2)	
922	LY43023-001A	MINI SCREW		
924	LYH30419-001A	PAD ARM ASSY		
925	YQ44246	SLIT WASHER		
928	LYH40270-001A	TAKE UP BRAKE ASSY		
929	YQ44246	SLIT WASHER		
930	LY43684-001B	TENSION CONTROL LEVER ASSY		
931	LY32861-001B	CENTER GEAR		
932	LY31516-001H	PINCH ROLLER ARM FINAL ASSY		
933	YQ44246	SLIT WASHER		
934	LY43681-001A	TENSION CONTROL PLATE ASSY		
935	LY43687-001A	BRAKE CONTROL LEVER ASSY		
936	LYH30421-001A	MOTOR BRACKET ASSY		
937	YQ43893	MINI SCREW	(x3)	
938	LYH30422-001A	GUIDE RAIL ASSY		
939	YQ43893	MINI SCREW		
940	YQ44246	SLIT WASHER	(x2)	
941	LY32843-001F	SLIDE LEVER2 ASSY		
942	LY43690-001A	LOADING PLATE ASSY		
943	YQ44246	SLIT WASHER		
944	LY32858-001B	EJECT LEVER		
945	YQ44246	SLIT WASHER		

△ Symbol No.	Part No.	Part Name	Description	Local
700	VU04D301E	VF UNIT ASSY	JAPAN	
701	LY21135-001E	FRAME(VF)		
702	LY44417-001A	SHEET(POLA)	(x2)	
703	LY33735-001A	STOPPER(POLA)		
704	LY33738-001A	HOLDER(SHEET)		
705	LY44419-001A	SHEET(DIFF)		
706	LY33736-001B	GUIDE(LCD)		
707	QLD0313-001	LCD MODULE		
708	LY33746-001A	SPRING(LCD)		
709	LY33739-001A	CASE(B.LIGHT)		
711	LY33799-001C	LENS HOLDER ASSY		
713	LY30031-031A	SPECIAL SCREW	VF PWB-FRM(x2)	
714	LY30031-031A	SPECIAL SCREW	CASEVF-FRM(x2)	
715	QAL0550-002	FPC	VF FPC	
716	NSW0200-001X	LEVER SWITCH	TEZUKE	
717	LY21137-001C	GUIDE(OUTER)		
718	LY33804-001B	PLATE(CLICK)		
719	LY30031-005A	SPECIAL SCREW	OUTER-PLT(x2)	
720	LY33805-001A	BRACKET		
721	LY30031-0E1A	SPECIAL SCREW	BKT-FPCPWB(x2)	
722	LY33803-001C	ZOOM UNIT		
723	LY21172-001D	VF COVER		
724	LY30031-002A	SPECIAL SCREW	COV.-OUTER(x2)	
725	LY21171-001C	HOLDER(EYE)		
726	LY30031-046A	SPECIAL SCREW	HOLDR-CASE(x3)	
727	LY44548-001A	SHEET(LENS)		
728	LY21136-001D	EYE CUP		
729	LY33988-001A	BRACKET(TOP2)		
730	LY30031-0E1A	SPECIAL SCREW	COVVF-BKT2	
731	LY30034-035B	SPACER(A)	VF PWB	
732	LY21134-001E	CASE(VF)		
733	LY33801-001C	LEVER(1)		
734	LY33802-001B	LEVER(2)		
735	LY30031-026A	SPECIAL SCREW		
736	LY30031-002A	SPECIAL SCREW	SW-OUTER	
737	LY30034-051A	SPACER(A)	SW PWB	
799	LY34201-001D	FRAME ASSY		

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

MONITOR ASSEMBLY <M5>

△ Symbol No.	Part No.	Part Name	Description	Local
△ 800	MU04D32501E	MONITOR UNIT ASSY	JAPAN	ABCDEF
△ 800	MU04D33001E	MONITOR UNIT ASSY	JAPAN	HJKL
801	LY33795-001C	HINGE UNIT ASSY		
802	NSW0217-001X	DETECT SWITCH		
803	LY21191-001D	MONITOR CASE(2.5)		ABCDEF
803	LY21130-001D	MONITOR CASE(3)		HJKL
804	LY33793-001A	LCD BKT 3 (1)		HJKL
804	LY33902-001A	LCD BKT 2.5(1)		ABCDEF
805	QLD0314-001	LCD MODULE		ABCDEF
805	QLD0315-001	LCD MODULE		HJKL
806	LY33794-001A	LCD BKT 3 (2)		HJKL
806	LY33903-001A	LCD BKT 2.5(2)		ABCDEF
807	QLL0157-001	BACK LIGHT		ABCDEF
807	QLL0158-001	BACK LIGHT		HJKL
809	LY30031-041A	SPECIAL SCREW	MONPWB-BKT	
△ 810	LY21131-001E	MONITOR COVER ASSY		
810A	LY33790-001B	MARK		
810B	LY30034-069A	SPACER(A)		
810C	LY44620-001B	STICKER		
811	LY30031-013A	SPECIAL SCREW	MCOV-HINGE(x2)	
812	LY30031-0E6A	SPECIAL SCREW	MCOV2-BKT(x2)	
813	LY30031-0E5A	SPECIAL SCREW	MCOV1-FRM	
814	LY33977-001C	FRAME(UP)ASSY		
814A	LY30032-006A	SPECIAL SCREW		
814B	LY33975-001A	KNOB(MONI.LOCK)		
814C	LY44517-001B	TORSION SPRING		
814D	LY30034-049A	SPACER(A)		
814E	LY30034-057A	SPACER(A)		
814F	LY30034-065A	SPACER(A)		
814G	LY30034-070A	SPACER(A)		
815	LY30031-009A	SPECIAL SCREW	HING-FRMUP(x2)	
816	LY21128-001C	POWER(OPE)UNIT		
817	LY30031-016A	SPECIAL SCREW	FRMUP-POWE(x2)	
818	LY30031-005A	SPECIAL SCREW	FPC-FRMUP(x3)	

MAIN BOARD ASSEMBLY <01>

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10456B-03	MAIN BOARD ASSY		A
PW1	YB10456A-03	MAIN BOARD ASSY		BCDEFGHJKL
IC1001	MN103S33NJY	IC(MICRO C ROM)	MASK	A
IC1001	or MN103SF33NY4JY	IC(MICRO C ROM)	FLASH	A
IC1001	MN103S33NJX	IC(MICRO C ROM)	MASK	BCDEFGHJKL
IC1001	or MN103SF33NY4JX	IC(MICRO C ROM)	FLASH	BCDEFGHJKL
IC1002	MB90097PFV153-X	IC(MICRO C ROM)	MB90099	
IC1003	SN74AHC1G00K-X	IC		
IC1003	or SN74AHC1G00DC-X	IC		
IC1003	or 74HC1G00GW-X	IC		
IC1003	or MC74HC1G00DF-X	IC		
IC1004	NJU7108F3-X	IC		
IC1004	or TC75S56FU-X	IC		
IC1005	M95320-WDW6-X	IC		
IC1006	RS5C314-X	IC		
IC1007	IC-PST3423U-X	IC		
IC1007	or S-80823CNNB-X	IC		
IC1701	BA10358FVM-W	IC	REELAMP5V	
IC1702	NJM2407R-W	IC	REELSMT	
IC2101	AK4550VT-X	IC		
IC2201	AK4564VQ	IC	48P0.5	
IC3001	JCY0152	IC	JCY0152	
IC3006	JCY0177-W	IC		
IC3201	JCP8075	IC		
IC3501	JCY0132	IC		
IC3502	SN74AHC1G04K-X	IC		
IC3502	or SN74AHC1G04DC-X	IC(DIGITAL)		
IC3701	BH7612FV-X	IC		
IC3731	MM1504XN-X	IC		BCDEFGHJKL
IC4201	HD49340NP-X	IC	CDS/AD QFN	
IC4202	MM1613AN-X	IC	REG 3V	
IC4301	JCY0200	IC	CAMERA DSP	

△ Symbol No.	Part No.	Part Name	Description	Local
IC4302	R1160N151B-X	IC	REG 1.5V	
IC4701	NJM2143R-X	IC		
IC4701	or TA75W01FU-X	IC		
IC4702	NJM2143R-X	IC		
IC4702	or TA75W01FU-X	IC		
IC4703	NJM2143R-X	IC		
IC4703	or TA75W01FU-X	IC		
IC4704	NJM3414AV-X	IC		
IC4901	JCY0207	IC		
IC4902	NJM3414AV-X	IC		
IC4951	AN41902A	IC		
IC5001	JCY0185	IC	TV/VDR	
IC6001	XC6202P33M-X	IC		
IC6002	R1224N102G-X	IC		
IC6101	FA3698F	IC	SW_REG IC	
IC8001	TMS320DSC24GHKL	IC	DSC24	
IC8002	K4S643233F-SE75	IC	64MSDRAM	
IC8002	or K4S643233F-DE75	IC	64MSDRAM	
IC8003	MR27T1602F19HLA	IC(MICRO C ROM)	OTP	
IC8004	BU2360FV-X	IC	FS PLL	
IC8301	ISP1181ABS	IC	USBQNF2.6	
Q1001	DTA114EM-X	DIGI TRANSISTOR		
Q1002	EMD3-W	PAIR TRANSISTOR		
Q1003	EMD3-W	PAIR TRANSISTOR		
Q1004	EMD3-W	PAIR TRANSISTOR		
Q1005	DTC143XM-X	DIGI TRANSISTOR		
Q1007	2SC5658/QRS/-X	TRANSISTOR		
Q1008	DTC124EM-X	DIGI TRANSISTOR		
Q1009	2SJ347-X	MOS FET		
Q1010	DTC144EM-X	DIGI TRANSISTOR		
Q1011	DTC143EM-X	DIGI TRANSISTOR		
Q1012	EMD3-W	PAIR TRANSISTOR		
Q2201	DTC144EE-X	DIGI TRANSISTOR		
Q2201	or UN92113J-X	DIGI TRANSISTOR		
Q2401	2SC5658/QRS/-X	TRANSISTOR		
Q2403	2SC5658/QRS/-X	TRANSISTOR		
Q2601	2SA2029/QRS/-X	TRANSISTOR		
Q2801	EMX1-W	TRANSISTOR		
Q3001	2SC5658/QRS/-X	TRANSISTOR		
Q3003	2SC5658/QRS/-X	TRANSISTOR		
Q3701	EMT1-W	PAIR TRANSISTOR		
Q3702	EMZ1-W	PAIR TRANSISTOR		
Q3704	2SA2029/QRS/-X	TRANSISTOR		
Q3705	EMT1-W	PAIR TRANSISTOR		
Q3706	DTC114EE-X	DIGI TRANSISTOR		BCDEFGHJKL
Q3706	or UN9211J-X	DIGI TRANSISTOR		BCDEFGHJKL
Q3707	DTC114EE-X	DIGI TRANSISTOR		BCDEFGHJKL
Q3707	or UN9211J-X	DIGI TRANSISTOR		BCDEFGHJKL
Q3731	2SC5658/QRS/-X	TRANSISTOR		BCDEFGHJKL
Q3733	EMZ1-W	PAIR TRANSISTOR		BCDEFGHJKL
Q3734	2SC5658/QRS/-X	TRANSISTOR		BCDEFGHJKL
Q3735	EMZ1-W	PAIR TRANSISTOR		BCDEFGHJKL
Q4701	2SC4655J/BC/-X	TRANSISTOR		
Q4951	DTC114EM-X	DIGI TRANSISTOR		
Q6001	QS6U24-W	MOS FET		
Q6201	QS6U24-W	MOS FET		
Q6202	2SA1577/RS/-X	TRANSISTOR		
Q6203	QS6U24-W	MOS FET		
Q6204	QS6U24-W	MOS FET		
Q6205	2SA1577/RS/-X	TRANSISTOR		
Q6206	DTC124TM-X	DIGI TRANSISTOR		
Q6207	QS6U24-W	MOS FET		
Q6208	QS6U24-W	MOS FET		
Q6209	SSM3J14T-X	MOS FET		
Q6210	2SC5658/QRS/-X	TRANSISTOR		
Q6211	2SC5658/QRS/-X	TRANSISTOR		
Q6212	EMZ1-W	PAIR TRANSISTOR		
Q6213	SSM3J14T-X	MOS FET		
Q6214	2SK3019-X	MOS FET		
Q6701	SSM3J14T-X	MOS FET		
Q8001	2SA1774/RS/-X	TRANSISTOR	2SA1774	
Q8001	or 2SB1462J/RS/-X	TRANSISTOR		
D1001	DA221-X	DIODE ARRAY		
D1001	or MA133-X	SI DIODE		
D3001	EC2C01C-TR-X	VARI CAP DIODE		
D3002	EC2C01C-TR-X	VARI CAP DIODE		

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local
D3003	EC2C01C-TR-X	VARI CAP DIODE		
D3004	RB551V-30-X	SB DIODE		
D4901	RB751V-40-X	SB DIODE		
D5001	1SS355-X	SI DIODE		
D5001	or MA111-X	SI DIODE		
△ D6001	RB706D-40-X	SB DIODE		
△ D6002	RB715F-X	SB DIODE		
D6201	RB480Y-W	SB DIODE		
D6202	EDZ4.7B-X	Z DIODE		
D6203	RB480Y-W	SB DIODE		
D6701	DG1M3-X	SB DIODE		
D6702	DG1M3-X	SB DIODE		
C1001	NDCA1HJ-8R0W	C CAPACITOR	8pF 50V J	
C1002	NDCA1HJ-100W	C CAPACITOR	10pF 50V J	
C1003	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1004	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1005	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1007	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1008	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1009	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1010	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1011	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1012	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1013	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1014	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1015	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1019	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1020	NCBA1EK-682W	C CAPACITOR	6800pF 25V K	
C1021	NCBA1EK-682W	C CAPACITOR	6800pF 25V K	
C1022	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1024	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1025	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1029	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1030	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C1032	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1035	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1036	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1037	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1038	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1039	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1040	NDCA1HJ-100W	C CAPACITOR	10pF 50V J	
C1041	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1042	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1043	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1044	NDCA1HJ-470W	C CAPACITOR	47pF 50V J	
C1045	NDCA1HJ-470W	C CAPACITOR	47pF 50V J	
C1046	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C1047	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1048	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1049	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1050	NCFA1HZ-103W	C CAPACITOR	0.01uF 50V Z	
C1051	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
C1052	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
C1053	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
C1054	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
C1055	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C1064	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C1701	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1702	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C1703	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C2101	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2102	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2103	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
C2104	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
C2105	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C2106	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2107	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2108	NBE90JM-475X	TA E CAPACITOR	4.7uF 6.3V M	
C2201	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2202	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2203	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2204	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2205	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2209	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2210	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2211	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2212	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	

△ Symbol No.	Part No.	Part Name	Description	Local
C2213	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2214	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2215	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2216	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2217	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2218	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2223	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2224	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2225	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2226	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2401	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C2402	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C2403	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C2404	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C2405	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2406	NBX0JM-106X	TA E CAPACITOR	10uF 6.3V M	
C2603	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C2604	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C2605	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C2606	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C2609	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C2610	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C2611	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2612	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2613	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C2614	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	
C2615	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	
C2616	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C2617	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C2618	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2619	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C2621	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C2622	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C2651	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C2652	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C2655	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C2656	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C2801	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C2802	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3001	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3003	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3005	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3006	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3007	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C3008	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3009	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3011	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3012	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3013	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3015	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3016	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3017	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3020	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3021	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3022	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3023	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	
C3024	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3025	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3026	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C3027	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C3028	NDCA1EJ-271W	C CAPACITOR	270pF 25V J	
C3029	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3030	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3031	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3032	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C3033	NDCA1HJ-150W	C CAPACITOR	15pF 50V J	
C3036	NDCA1HJ-8R0W	C CAPACITOR	8pF 50V J	
C3037	NDCA1HJ-8R0W	C CAPACITOR	8pF 50V J	
C3038	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3039	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3042	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3043	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3044	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3045	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3046	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3047	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3048	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C3049	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C3050	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3710	NBE90GM-226X	TA E CAPACITOR	22uF 4V M	
C3055	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3711	NBE90GM-226X	TA E CAPACITOR	22uF 4V M	
C3064	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C3712	NBE20GM-107X	TA E CAPACITOR	100uF 4V M	
C3077	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C3713	NBE20GM-107X	TA E CAPACITOR	100uF 4V M	
C3078	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C3715	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3079	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M		C3731	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	BCDEFGHJKL
C3080	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C3732	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	BCDEFGHJKL
C3201	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M		C3733	NDCA1HJ-3R0W	C CAPACITOR	3pF 50V J	BCDEFGHJKL
C3202	NCB21AK-105X	C CAPACITOR	1uF 10V K		C3734	NDCA1HJ-5R0W	C CAPACITOR	5pF 50V J	BCDEFGHJKL
C3203	NCB21AK-105X	C CAPACITOR	1uF 10V K		C3735	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	BCDEFGHJKL
C3204	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M		C3736	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	BCDEFGHJKL
C3205	NBE20GM-476X	TA E CAPACITOR	47uF 4V M		C3738	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	BCDEFGHJKL
C3206	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3739	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	BCDEFGHJKL
C3207	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3740	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	BCDEFGHJKL
C3208	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3741	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	BCDEFGHJKL
C3209	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3742	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	BCDEFGHJKL
C3210	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3743	NDCA1HJ-3R0W	C CAPACITOR	3pF 50V J	BCDEFGHJKL
C3211	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3744	NDCA1HJ-5R0W	C CAPACITOR	5pF 50V J	BCDEFGHJKL
C3212	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3745	NDCA1HJ-330W	C CAPACITOR	33pF 50V J	BCDEFGHJKL
C3213	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3746	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	BCDEFGHJKL
C3214	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C3747	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	BCDEFGHJKL
C3215	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4201	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C3216	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4202	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3217	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C4203	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3218	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4204	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3219	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4205	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3220	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4206	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C3221	NCB30JK-105X	C CAPACITOR	1uF 6.3V K		C4207	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3222	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4208	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3223	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4209	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C3224	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4210	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3225	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4211	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3226	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4212	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3227	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4213	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3228	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4214	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3229	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4215	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3230	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4216	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3231	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4217	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3232	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4218	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3233	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4219	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C3234	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4301	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3235	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4302	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3236	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4303	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3237	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4304	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3240	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	BCDEFGHJKL	C4305	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3501	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M		C4306	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3502	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M		C4307	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3503	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M		C4308	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3504	NCBA1AK-473W	C CAPACITOR	0.047uF 10V K		C4309	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3505	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K		C4310	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3506	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K		C4311	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3507	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4312	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3508	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4313	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3509	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4314	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C3510	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4315	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3511	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4316	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3512	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4317	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3513	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4701	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3514	NCBA1AK-473W	C CAPACITOR	0.047uF 10V K		C4702	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3515	NCBA1AK-473W	C CAPACITOR	0.047uF 10V K		C4703	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3516	NCBA1AK-473W	C CAPACITOR	0.047uF 10V K		C4704	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3517	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4705	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C3518	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4707	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3519	NCBA1HK-102W	C CAPACITOR	1000pF 50V K		C4708	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3520	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4709	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3521	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4710	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3522	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M		C4711	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3523	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4901	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3524	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4902	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3525	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M		C4903	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3526	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4904	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C3527	NDCA1EJ-221W	C CAPACITOR	220pF 25V J		C4905	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3528	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4906	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3701	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M		C4907	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3706	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K		C4908	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C3707	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4909	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C3708	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K		C4911	NDCA1HJ-680W	C CAPACITOR	68pF 50V J	
C3709	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K		C4912	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local
C4914	NDCA1HJ-680W	C CAPACITOR	68pF 50V J	
C4915	NDCA1HJ-121W	C CAPACITOR	120pF 50V J	
C4916	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4917	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4951	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4952	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C4953	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4954	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C4955	NCFA1AZ-104W	C CAPACITOR	0.1uF 10V Z	
C4956	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C4957	NDCA1HJ-220W	C CAPACITOR	22pF 50V J	
C4958	NDCA1HJ-220W	C CAPACITOR	22pF 50V J	
C5001	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5002	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5003	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5004	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5005	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C5006	NBE20GM-476X	TA E CAPACITOR	47uF 4V M	
C5007	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5008	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5009	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5010	NBP21VM-105X	TA E CAPACITOR	1uF 35V M	
C5011	NBZ0003-475X	TA E CAPACITOR	4.7uF 20V M	
C5012	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C5013	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C5014	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5015	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5016	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5017	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C5018	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5019	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C5023	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C5024	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6001	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6002	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C6004	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6005	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
C6006	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6101	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6103	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6105	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6106	NBP41DM-106X	TA E CAPACITOR	10uF 20V M	
C6107	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6108	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6109	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6110	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6111	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C6112	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C6113	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C6114	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C6115	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6116	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6117	NCBA1AK-333W	C CAPACITOR	0.033uF 10V K	
C6118	NCBA1HK-561W	C CAPACITOR	560pF 50V K	
C6119	NCBA1HK-272W	C CAPACITOR	2700pF 50V K	
C6120	NCBA1HK-561W	C CAPACITOR	560pF 50V K	
C6121	NCBA1CK-223W	C CAPACITOR	0.022uF 10V K	
C6122	NCBA1HK-471W	C CAPACITOR	470pF 50V K	
C6123	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6124	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6125	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	
C6126	NCBA1AK-473W	C CAPACITOR	0.047uF 10V K	
C6127	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6128	NCBA1AK-473W	C CAPACITOR	0.047uF 10V K	
C6129	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6130	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6131	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6132	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C6133	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C6134	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6201	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6202	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6203	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C6205	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C6206	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6207	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
C6208	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C6209	NCB21CK-105X	C CAPACITOR	1uF 16V K	

△ Symbol No.	Part No.	Part Name	Description	Local
C6210	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
C6211	NCBA1HK-102W	C CAPACITOR	1000pF 50V K	
C6212	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6213	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C6214	NCBA1AK-683W	C CAPACITOR	0.068uF 10V K	
C6215	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6216	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C6217	NCJA0JK-105W-A	C CAPACITOR	1uF 6.3V K	
C6218	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6219	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6220	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6222	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6224	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6225	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6226	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C6227	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6228	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6701	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C6702	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C8001	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C8002	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C8003	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8004	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8005	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8006	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8007	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8008	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8009	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8010	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8011	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C8012	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8013	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8014	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8015	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8016	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C8017	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8018	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8021	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C8022	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C8023	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8024	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8025	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C8026	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8027	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8301	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C8305	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8306	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8307	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8310	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
C8311	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
R1001	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R1002	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1003	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1006	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1007	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1008	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1009	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1010	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1011	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1012	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1013	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1014	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1015	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1016	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1017	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J	
R1018	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J	
R1019	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1020	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1021	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1022	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1023	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1027	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1030	NRSA6AJ-753W	MG RESISTOR	75kΩ 1/16W J	
R1031	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J	
R1032	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1033	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1034	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R1035	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2207	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R1037	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J		R2208	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1039	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J		R2209	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1041	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J		R2212	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω 1/16W J	
R1042	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J		R2213	NRSA6AJ-2R7W	MG RESISTOR	2.7Ω 1/16W J	
R1043	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2217	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1044	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2225	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1045	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J		R2226	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1046	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2227	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R1047	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2228	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R1048	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R2229	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R1049	NRSA6AJ-623W	MG RESISTOR	62kΩ 1/16W J		R2230	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R1050	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J		R2231	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1051	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		R2401	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R1052	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2402	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R1053	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J		R2407	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1054	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2601	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1055	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J		R2602	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1056	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J		R2604	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1057	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2605	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1058	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2607	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1059	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2608	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R1060	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R2609	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J	
R1061	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J		R2610	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J	
R1062	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J		R2611	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1065	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J		R2612	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1067	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J		R2613	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1068	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R2614	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1069	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2615	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J	
R1070	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J		R2616	NRSA6AJ-334W	MG RESISTOR	330kΩ 1/16W J	
R1071	NRSA6AJ-272W	MG RESISTOR	2.7kΩ 1/16W J		R2801	NRSA6AJ-821W	MG RESISTOR	820Ω 1/16W J	
R1072	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J		R2802	NRSA6AJ-821W	MG RESISTOR	820Ω 1/16W J	
R1073	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R2803	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R1074	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R2804	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R1075	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		R2805	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1076	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		R2806	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1077	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R2807	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1078	NRSA6AJ-393W	MG RESISTOR	39kΩ 1/16W J		R2808	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1079	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J		R2809	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1080	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J		R3002	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1081	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3004	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1082	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J		R3005	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1083	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3006	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R1084	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3007	NRSA6AJ-562W	MG RESISTOR	5.6kΩ 1/16W J	
R1085	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3008	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1086	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R3009	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1087	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R3010	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1088	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R3011	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J	
R1089	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J		R3013	NRSA6AJ-242W	MG RESISTOR	2.4kΩ 1/16W J	
R1090	NRSA6AJ-682W	MG RESISTOR	6.8kΩ 1/16W J		R3014	NRSA6AJ-392W	MG RESISTOR	3.9kΩ 1/16W J	
R1091	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3015	NRSA6AJ-392W	MG RESISTOR	3.9kΩ 1/16W J	
R1092	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3016	NRVA6AD-560W	CMF RESISTOR	56Ω 1/16W D	
R1093	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3017	NRVA6AD-560W	CMF RESISTOR	56Ω 1/16W D	
R1094	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3018	NRVA6AD-560W	CMF RESISTOR	56Ω 1/16W D	
R1095	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3019	NRVA6AD-560W	CMF RESISTOR	56Ω 1/16W D	
R1097	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R3020	NRVA6AD-512W	CMF RESISTOR	5.1kΩ 1/16W D	
R1098	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J		R3021	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1701	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J		R3025	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1702	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J		R3027	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1703	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J		R3029	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R1704	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J		R3030	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J	
R1705	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J		R3031	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J	
R1706	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J		R3032	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R1707	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3034	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	
R1708	NRSA6AJ-124W	MG RESISTOR	120kΩ 1/16W J		R3036	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1709	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		R3037	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J	
R1710	NRSA6AJ-124W	MG RESISTOR	120kΩ 1/16W J		R3038	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1711	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3042	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J	
R1712	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R3043	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R1713	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J		R3044	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R2101	NRSA6AJ-471W	MG RESISTOR	470Ω 1/16W J		R3046	NRSA6AJ-181W	MG RESISTOR	180Ω 1/16W J	
R2102	NRSA6AJ-471W	MG RESISTOR	470Ω 1/16W J		R3047	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R2103	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R3049	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R2201	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J		R3050	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R2202	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J		R3053	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R2203	NRSA6AJ-393W	MG RESISTOR	39kΩ 1/16W J		R3057	NRSA6AJ-151W	MG RESISTOR	150Ω 1/16W J	
R2204	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J		R3071	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R2206	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J		R3077	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local
R3201	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3202	NRSA6AD-183W	MG RESISTOR	18kΩ 1/16W D	
R3203	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R3204	NRSA6AD-821W	MG RESISTOR	820Ω 1/16W D	
R3205	NRSA6AD-821W	MG RESISTOR	820Ω 1/16W D	
R3207	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3212	NRSA6AJ-151W	MG RESISTOR	150Ω 1/16W J	BCDEFGHJKL
R3213	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3214	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3339	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3501	NRSA6AJ-471W	MG RESISTOR	470Ω 1/16W J	
R3502	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R3503	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R3504	NRSA6AD-241W	MG RESISTOR	240Ω 1/16W D	
R3505	NRSA6AD-241W	MG RESISTOR	240Ω 1/16W D	
R3506	NRSA6AD-241W	MG RESISTOR	240Ω 1/16W D	
R3507	NRSA6AD-241W	MG RESISTOR	240Ω 1/16W D	
R3508	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J	
R3511	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R3521	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3522	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3523	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3524	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3525	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3526	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3527	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3701	NRSA6AD-271W	MG RESISTOR	270Ω 1/16W D	
R3703	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R3704	NRSA6AD-301W	MG RESISTOR	300Ω 1/16W D	
R3706	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R3707	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R3708	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R3709	NRSA6AD-680W	MG RESISTOR	68Ω 1/16W D	
R3710	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3711	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3712	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R3713	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R3714	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J	
R3715	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R3716	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3718	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R3722	NRSA6AD-750W	MG RESISTOR	75Ω 1/16W D	
R3724	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R3725	NRSA6AD-750W	MG RESISTOR	75Ω 1/16W D	
R3726	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R3727	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R3728	NRSA6AD-750W	MG RESISTOR	75Ω 1/16W D	
R3730	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R3731	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	BCDEFGHJKL
R3732	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	BCDEFGHJKL
R3733	NRSA6AD-561W	MG RESISTOR	560Ω 1/16W D	BCDEFGHJKL
R3734	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	BCDEFGHJKL
R3735	NRSA6AD-182W	MG RESISTOR	1.8kΩ 1/16W D	BCDEFGHJKL
R3736	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J	BCDEFGHJKL
R3737	NRSA6AJ-183W	MG RESISTOR	18kΩ 1/16W J	BCDEFGHJKL
R3738	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J	BCDEFGHJKL
R3739	NRSA6AJ-821W	MG RESISTOR	820Ω 1/16W J	BCDEFGHJKL
R3740	NRSA6AJ-821W	MG RESISTOR	820Ω 1/16W J	BCDEFGHJKL
R3741	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	BCDEFGHJKL
R3742	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	BCDEFGHJKL
R3743	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	BCDEFGHJKL
R3744	NRSA6AD-561W	MG RESISTOR	560Ω 1/16W D	BCDEFGHJKL
R3745	NRSA6AD-152W	MG RESISTOR	1.5kΩ 1/16W D	BCDEFGHJKL
R3746	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J	BCDEFGHJKL
R3747	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	BCDEFGHJKL
R3748	NRSA6AJ-474W	MG RESISTOR	470kΩ 1/16W J	BCDEFGHJKL
R4201	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J	
R4202	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
R4203	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R4204	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R4301	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
R4303	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4304	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4305	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4306	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4307	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J	
R4308	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J	
R4309	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R4310	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4313	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4315	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4317	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4319	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4320	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4321	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4322	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J	
R4323	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4324	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4325	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4326	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4327	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4701	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4702	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R4703	NRSA6AJ-683W	MG RESISTOR	68kΩ 1/16W J	
R4704	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	
R4705	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R4706	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R4707	NRSA6AJ-243W	MG RESISTOR	24kΩ 1/16W J	
R4708	NRSA6AJ-331W	MG RESISTOR	330Ω 1/16W J	
R4709	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4710	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R4712	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R4713	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4714	NRSA6AJ-683W	MG RESISTOR	68kΩ 1/16W J	
R4715	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R4716	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R4717	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4718	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R4722	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R4723	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4724	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4725	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4726	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4727	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4728	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4729	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4730	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4733	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4734	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4735	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4901	NRSA6AJ-243W	MG RESISTOR	24kΩ 1/16W J	
R4902	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4903	NRSA6AJ-822W	MG RESISTOR	8.2kΩ 1/16W J	
R4904	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4905	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	
R4906	NRSA6AJ-684W	MG RESISTOR	680kΩ 1/16W J	
R4907	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R4908	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R4909	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R4910	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4911	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4912	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J	
R4914	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R4917	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4918	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4921	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4922	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4923	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R4924	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R4925	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4926	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4927	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4928	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4929	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4930	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4931	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4932	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4933	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4934	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4935	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R4944	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4945	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4947	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	
R4948	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4949	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4950	NRSA6AJ-683W	MG RESISTOR	68kΩ 1/16W J	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R4951	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R6703	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D	
R4952	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R6704	NRSA6AD-823W	MG RESISTOR	82kΩ 1/16W D	
R4953	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R6705	NRSA6AD-333W	MG RESISTOR	33kΩ 1/16W D	
R4954	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R6706	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R4955	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J		R8002	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4956	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω 1/16W J		R8005	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
R4957	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω 1/16W J		R8007	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R4958	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R8008	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R4959	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω 1/16W J		R8009	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R4960	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω 1/16W J		R8011	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4961	NRSA6AJ-271W	MG RESISTOR	270Ω 1/16W J		R8012	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4962	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R8016	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4963	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R8017	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R4964	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R8019	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R4965	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R8021	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R5001	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		R8022	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R5003	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R8023	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R5004	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R8025	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R5005	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J		R8027	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R5006	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J		R8028	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R5007	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J		R8029	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R5008	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		R8030	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R5009	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J		R8031	NRSA6AJ-100W	MG RESISTOR	10Ω 1/16W J	
R5011	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J		R8032	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R5012	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R8033	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R5013	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R8036	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
R5014	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		R8037	NRSA6AJ-221W	MG RESISTOR	220Ω 1/16W J	
R6001	NRSA6AJ-224W	MG RESISTOR	220kΩ 1/16W J		R8041	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
△ R6002	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J		R8042	NRSA6AJ-220W	MG RESISTOR	22Ω 1/16W J	
△ R6003	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J		R8302	NRS181J-220X	MG RESISTOR	22Ω 1/8W J	
R6005	NRSA6AD-513W	MG RESISTOR	51kΩ 1/16W D		R8303	NRS181J-220X	MG RESISTOR	22Ω 1/8W J	
R6006	NRSA6AD-243W	MG RESISTOR	24kΩ 1/16W D		R8306	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R6101	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D		R8307	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R6102	NRSA6AJ-751W	MG RESISTOR	750Ω 1/16W J		R8308	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R6103	NRSA6AD-622W	MG RESISTOR	6.2kΩ 1/16W D		R8309	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R6104	NRSA6AJ-333W	MG RESISTOR	33kΩ 1/16W J		R8310	NRSA6AJ-153W	MG RESISTOR	15kΩ 1/16W J	
R6105	NRSA6AJ-562W	MG RESISTOR	5.6kΩ 1/16W J		R8313	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R6106	NRSA6AJ-223W	MG RESISTOR	22kΩ 1/16W J		R8314	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R6107	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J		R8315	NRSA6AJ-105W	MG RESISTOR	1MΩ 1/16W J	
R6108	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J		R8316	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R6109	NRSA6AJ-823W	MG RESISTOR	82kΩ 1/16W J		R8317	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J	
R6110	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D		RA1001	NRZ0034-473W	NET RESISTOR	47kΩ 1/32W J	
R6112	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		RA1002	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J	
R6113	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		RA1003	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J	
R6202	NRSA6AD-223W	MG RESISTOR	22kΩ 1/16W D		RA1004	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J	
R6204	NRSA6AD-822W	MG RESISTOR	8.2kΩ 1/16W D		RA1005	NRZ0034-103W	NET RESISTOR	10kΩ 1/32W J	
R6205	NRSA6AJ-473W	MG RESISTOR	47kΩ 1/16W J		RA1006	NRZ0034-102W	NET RESISTOR	1kΩ 1/32W J	
R6206	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J		RA1007	NRZ0034-102W	NET RESISTOR	1kΩ 1/32W J	
R6207	NRSA6AD-183W	MG RESISTOR	18kΩ 1/16W D		RA1008	NRZ0034-104W	NET RESISTOR	100kΩ 1/32W J	
R6208	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D		RA3001	NRZ0034-560W	NET RESISTOR	56Ω 1/32W J	
R6210	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D		RA3002	NRZ0034-560W	NET RESISTOR	56Ω 1/32W J	
R6211	NRSA6AD-153W	MG RESISTOR	15kΩ 1/16W D		RA3003	NRZ0034-100W	NET RESISTOR	10Ω 1/32W J	
R6213	NRSA6AD-183W	MG RESISTOR	18kΩ 1/16W D		RA3004	NRZ0034-103W	NET RESISTOR	10kΩ 1/32W J	
R6215	NRSA6AD-472W	MG RESISTOR	4.7kΩ 1/16W D		RA3005	NRZ0040-0R0X	NET RESISTOR	0Ω 1/16W J	
R6216	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J		RA3201	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6217	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J		RA3202	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6219	NRSA6AD-243W	MG RESISTOR	24kΩ 1/16W D		RA4201	NRZ0034-100W	NET RESISTOR	10Ω 1/32W J	
R6220	NRSA6AD-302W	MG RESISTOR	3kΩ 1/16W D		RA4202	NRZ0034-100W	NET RESISTOR	10Ω 1/32W J	
R6221	NRSA6AD-104W	MG RESISTOR	100kΩ 1/16W D		RA4301	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6222	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D		RA4302	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6223	NRSA6AD-103W	MG RESISTOR	10kΩ 1/16W D		RA4303	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6225	NRSA6AD-473W	MG RESISTOR	47kΩ 1/16W D		RA4304	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6226	NRSA6AD-562W	MG RESISTOR	5.6kΩ 1/16W D		RA4305	NRZ0034-100W	NET RESISTOR	10Ω 1/32W J	
R6227	NRSA6AD-273W	MG RESISTOR	27kΩ 1/16W D		RA4306	NRZ0034-100W	NET RESISTOR	10Ω 1/32W J	
R6228	NRSA6AD-473W	MG RESISTOR	47kΩ 1/16W D		RA4307	NRZ0034-100W	NET RESISTOR	10Ω 1/32W J	
R6229	NRSA6AJ-272W	MG RESISTOR	2.7kΩ 1/16W J		RA4308	NRZ0034-100W	NET RESISTOR	10Ω 1/32W J	
R6230	NRSA6AD-473W	MG RESISTOR	47kΩ 1/16W D		RA8001	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6231	NRSA6AD-332W	MG RESISTOR	3.3kΩ 1/16W D		RA8002	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6232	NRSA6AD-123W	MG RESISTOR	12kΩ 1/16W D		RA8003	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6233	NRSA6AD-203W	MG RESISTOR	20kΩ 1/16W D		RA8004	NRZ0034-101W	NET RESISTOR	100Ω 1/32W J	
R6234	NRSA6AJ-101W	MG RESISTOR	100Ω 1/16W J		L1001	NQL402M-100X	COIL	10uH M	
R6235	NRSA6AJ-222W	MG RESISTOR	2.2kΩ 1/16W J		L1002	NQL402M-100X	COIL	10uH M	
R6236	NRSA6AD-563W	MG RESISTOR	56kΩ 1/16W D		L2101	NQL402M-100X	COIL	10uH M	
R6237	NRSA6AD-473W	MG RESISTOR	47kΩ 1/16W D		L2401	NQL402M-100X	COIL	10uH M	
R6238	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J		L2402	NQL402M-100X	COIL	10uH M	
R6239	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J		L2601	NQR0269-013X	FERRITE BEADS		
R6701	NRV142F-R20X	CMF RESISTOR	0.2Ω 1/4W F		L2602	NQR0269-013X	FERRITE BEADS		
R6702	NRSA6AD-104W	MG RESISTOR	100kΩ 1/16W D						

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local
L2603	NQR0269-013X	FERRITE BEADS		
L2651	NQR0269-013X	FERRITE BEADS		
L2652	NQR0269-013X	FERRITE BEADS		
L2653	NQR0269-013X	FERRITE BEADS		
L2801	NQR0251-004X	FERRITE BEADS		
L2802	NQR0251-004X	FERRITE BEADS		
L2803	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
L2804	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
L2805	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
L3001	NQR0129-002X	FERRITE BEADS		
L3002	NQR0129-002X	FERRITE BEADS		
L3004	NQR0006-001X	FERRITE BEADS		
L3005	NQR0006-001X	FERRITE BEADS		
L3007	NQL085J-2R2X	COIL	2.2uH J	
L3008	NQL085J-120X	COIL	12uH J	
L3012	NQR0129-002X	FERRITE BEADS		
L3015	NQR0006-001X	FERRITE BEADS		
L3201	NQR0129-002X	FERRITE BEADS		
L3202	NQR0129-002X	FERRITE BEADS		
L3203	NQR0006-001X	FERRITE BEADS		
L3204	NQL38DK-100X	P COIL	10uH K	
L3501	NQR0129-002X	FERRITE BEADS		
L3502	NQL402M-100X	COIL	10uH M	
L3503	NQR0006-001X	FERRITE BEADS		
L3504	NQR0006-001X	FERRITE BEADS		
L3505	NQR0006-001X	FERRITE BEADS		
L3701	NQL38DK-100X	P COIL	10uH K	
L3731	NQL085J-6R8X	COIL	6.8uH J 8CDEFGHJKL	
L3732	NQL085J-6R8X	COIL	6.8uH J 8CDEFGHJKL	
L4201	NQL38DK-100X	P COIL	10uH K	
L4202	NQL38DK-100X	P COIL	10uH K	
L4301	NQR0129-002X	FERRITE BEADS		
L4302	NQR0129-002X	FERRITE BEADS		
L4701	NQL38DK-100X	P COIL	10uH K	
L4901	NQR0129-002X	FERRITE BEADS		
L4902	NQL38DK-100X	P COIL	10uH K	
L4953	NQR0129-002X	FERRITE BEADS		
L4954	NQL38DK-100X	P COIL	10uH K	
L4955	NQL38DK-100X	P COIL	10uH K	
L5001	NQL38DK-100X	P COIL	10uH K	
L5002	NQR0129-002X	FERRITE BEADS		
L5003	NQR0129-002X	FERRITE BEADS		
L5004	NQR0129-002X	FERRITE BEADS		
L5005	NQL38DK-100X	P COIL	10uH K	
L5006	NQL38DK-100X	P COIL	10uH K	
L5009	NQL38DK-100X	P COIL	10uH K	
L5011	NQL38DK-100X	P COIL	10uH K	
L6001	NQL62EM-820X	COIL	82uH M	
L6101	NQL62EM-100X	COIL	10uH M	
L6102	NQL62EM-100X	COIL	10uH M	
L6201	NQL62EM-390X	COIL	39uH M	
L6202	NQL62EM-390X	COIL	39uH M	
L6203	NQL62EM-100X	COIL	10uH M	
L6204	NQL144K-220X	P COIL	22uH K	
L6205	NQL62EM-470X	COIL	47uH M	
L6206	NQL62EM-470X	COIL	47uH M	
L6207	NQLZ011-221X	COIL	220uH M	
L6208	NQL38DK-100X	P COIL	10uH K	
L6701	NQL52EM-100X	COIL	10uH M	
L8001	NQR0129-002X	FERRITE BEADS		
L8002	NQR0129-002X	FERRITE BEADS		
L8003	NQR0129-002X	FERRITE BEADS		
L8004	NQR0006-001X	FERRITE BEADS		
L8005	NQR0129-002X	FERRITE BEADS		
L8006	NQR0006-001X	FERRITE BEADS		
L8301	NQR0129-002X	FERRITE BEADS		
CN101	QGF0532F2-21X	CONNECTOR	BATT.TERM. FFC/FPC (1-21)	
CN102	QGF0517F2-20X	CONNECTOR	CCD FFC/FPC (1-20)	
CN103	QGF0537F2-30X	CONNECTOR	MDA PWB FFC/FPC (1-30)	
CN104	QGF0307F2-39W	CONNECTOR	MONI PWB FFC/FPC (1-39)	
CN105	QGB0512L4-40X	CONNECTOR	JIG CN B-B (1-40)	
CN106	QGF0517F2-16X	CONNECTOR	SENSOR FFC/FPC (1-16)	
CN107	QGF0537F1-28X	CONNECTOR	OP FFC/FPC (1-28)	
CN108	QGF0517F2-07X	CONNECTOR	POWER SW FFC/FPC (1-7)	
CN109	QGF0532F2-13X	CONNECTOR	OPERATION FFC/FPC (1-13)	
CN110	QGF0517F1-08X	CONNECTOR	HEAD FFC/FPC (1-8)	
CN111	QGA1001F1-04X	CONNECTOR	INT MIC W-B (1-4)	

△ Symbol No.	Part No.	Part Name	Description	Local
CN112	QGF0517F2-12X	CONNECTOR	FRONT PWB FFC/FPC (1-12)	
CN113	QGF0532F2-22X	CONNECTOR	VF PWB FFC/FPC (1-22)	
CN114	QGF0532F2-12X	CONNECTOR	SD PWB FFC/FPC (1-12)	
CN115	QGF0532F2-06X	CONNECTOR	SUB OPE FFC/FPC (1-6)	
△ F4951	NMFZ007-R20X-K	FUSE	0.2A 50V	
△ F4952	NMFZ007-R20X-K	FUSE	0.2A 50V	
△ F6001	NMFZ007-1R0X-K	FUSE	1A 32V	
△ F6101	NMFZ007-2R0X-K	FUSE	2A 32V	
△ F6201	NMFZ007-1R25X-K	FUSE	1.25A 32V	
J101	QNS0233-001	3.5 JACK	EXT MIC	
J102	QNZ0497-001	USB(B) CONNECTOR	USB USB(MINI-B)	
J103	QNZ0669-002	M CONNECTOR	MULTI	
J104	QNA0037-002	DC JACK	DC JACK	
J105	QNZ0518-002	D CONNECTOR	DV	
X1001	NAX0645-001X	CRYSTAL		
X1002	NAX0564-001X	CRYSTAL		
X3002	NAX0480-001X	CRYSTAL	24.576MHz	
X5001	NAX0587-001X	CXO		
X8301	NAX0612-001X	C RESONATOR		
OT1	LY30034-024A	SPACER(A)	IC8003	
OT2	LY44158-001A	SHEET(SHIELD)		
OT3	LY44621-001A	SPACER	MIC WIRE	
OT4	LY44622-001A	SPACER	FRONT FFC	
OT5	LY30034-055A	SPACER(A)	FOR J101	
OT6	LY30034-063A	SPACER(A)	BATT FPC	
OT7	LY30034-055A	SPACER(A)	JVM ONLY	
SD1	LY34062-001A	SHIELD CASE	PRE/REC	

CCD BOARD ASSEMBLY <02>

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10458A-01	CCD BOARD ASSY		
Q5501	2SC3931/CD/-X	TRANSISTOR		
C5501	NBZ0003-475X	TA E CAPACITOR	4.7uF 20V M	
C5502	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C5503	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C5504	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5505	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C5506	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C5507	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
R5501	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R5503	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R5506	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R5507	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
L5501	NQL38DK-100X	P COIL	10uH K	
L5502	NQL38DK-100X	P COIL	10uH K	

MDA BOARD ASSEMBLY <03>

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10459A-01	MDA BOARD ASSY		
△ IC1601	BD6637KV	IC	MDA 64PIN	
Q1601	UMC3N-W	DIGI TRANSISTOR	LD ON	
D1602	DAP222-X	DIODE ARRAY	LD OUT	
D1602	or MA132WA-X	SI DIODE		
D1603	DAP222-X	DIODE ARRAY	LD ON	
D1603	or MA132WA-X	SI DIODE		
D1604	DAP222-X	DIODE ARRAY	C.ERR-3V	
D1604	or MA132WA-X	SI DIODE		
C1601	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1602	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C1603	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C1605	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

△ Symbol No.	Part No.	Part Name	Description	Local
C1606	NCBA1HK-152W	C CAPACITOR	1500pF 50V K	
C1607	NCBA1CK-473W	C CAPACITOR	0.047uF 16V K	
C1614	NBE91AM-475X	TA E CAPACITOR	4.7uF 10V M	
C1618	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
C1619	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
C1620	NCBA1HK-222W	C CAPACITOR	2200pF 50V K	
C1621	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C1622	NCBA1CK-223W	C CAPACITOR	0.022uF 16V K	
C1623	NCBA1AK-473W	C CAPACITOR	0.047uF 10V K	
C1624	NCBA1CK-103W	C CAPACITOR	0.01uF 16V K	
C1625	NDCA1HJ-101W	C CAPACITOR	100pF 50V J	
C1626	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C1627	NCBA1EK-472W	C CAPACITOR	4700pF 25V K	
C1628	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	
C1629	NCJ31EK-224X-A	C CAPACITOR	0.22uF 25V K	
C1630	NCJ31EK-224X-A	C CAPACITOR	0.22uF 25V K	
C1631	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C1632	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	
C1633	NCB30JK-474X	C CAPACITOR	0.47uF 6.3V K	

R1601	NRSA6AJ-681W	MG RESISTOR	680Ω 1/16W J	
R1602	NRSA6AJ-124W	MG RESISTOR	120kΩ 1/16W J	
R1603	NRSA6AJ-472W	MG RESISTOR	4.7kΩ 1/16W J	
R1604	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1610	NRSA6AJ-391W	MG RESISTOR	390Ω 1/16W J	
R1611	NRSA6AJ-391W	MG RESISTOR	390Ω 1/16W J	
R1612	NRSA6AJ-104W	MG RESISTOR	100kΩ 1/16W J	
R1613	NRSA6AJ-102W	MG RESISTOR	1kΩ 1/16W J	
R1614	NRZ0072-R330X	MG RESISTOR	0.33Ω 1/4W F	
R1616	NRSA6AD-392W	MG RESISTOR	3.9kΩ 1/16W D	
R1617	NRZ0072-R330X	MG RESISTOR	0.33Ω 1/4W F	
R1620	NRSA6AJ-683W	MG RESISTOR	68kΩ 1/16W J	
R1621	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1622	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R1624	NRSA6AD-183W	MG RESISTOR	18kΩ 1/16W D	
R1625	NRSA6AD-681W	MG RESISTOR	680Ω 1/16W D	
R1629	NRSA6AJ-564W	MG RESISTOR	560kΩ 1/16W J	
R1630	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1631	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1635	NRSA6AJ-332W	MG RESISTOR	3.3kΩ 1/16W J	
R1636	NRSA6AJ-123W	MG RESISTOR	12kΩ 1/16W J	
R1637	NRSA6AJ-154W	MG RESISTOR	150kΩ 1/16W J	
R1638	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1639	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R1640	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R1641	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	
R1642	NRSA6AJ-0R0W	MG RESISTOR	0Ω 1/16W J	

L1601	NQL382M-100X	COIL	10uH M	
CN301	QGF0532F2-18X	CONNECTOR	CAPSTAN FFC/FFC (1-18)	
CN302	QGF0532F2-11X	CONNECTOR	DRUM MOTOR FFC/FFC (1-11)	
CN303	QGF0532F2-06X	CONNECTOR	RENCODER FFC/FFC (1-6)	
CN304	QGF0517F2-06X	CONNECTOR	LOAD MOTOR FFC/FFC (1-6)	
CN305	QGF0537F1-30X	CONNECTOR	MAIN PWB FFC/FFC (1-30)	
△ F1601	NMFZ007-R20X-K	FUSE	0.2A 50V	
△ F1602	NMFZ007-R50X-K	FUSE	0.5A 50V	
OT1	LY44587-001A	SHEET(MDA)	MECHA	
OT2	LY30034-080A	SPACER(A)	IC1601	
OT3	LY30034-036A	SPACER(A)	FOR IC1001	
OT4	LY30034-037A	SPACER(A)	FOR IC2201	
WR1	WJT0142-001B	E-CARD WIRE	MAIN PWB	

FRONT BOARD ASSEMBLY <04>

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10460A-01	FRONT BOARD ASSY		
IC401	RPM7138-S	IR DETECT UNIT	IR	
Q401	RPM-22PB	PHOTO TRANSISTOR	W/B	
Q6501	DTC114EM-X	DIGI TRANSISTOR		
Q6502	EMT1-W	PAIR TRANSISTOR		
Q6503	EMT1-W	PAIR TRANSISTOR		
Q6504	2SA2029/QRS/-X	TRANSISTOR		

△ Symbol No.	Part No.	Part Name	Description	Local
D401	SML-211UT-X	LED	TALLY	
D6501	LWE67C/U2V45C/X	LED	WHITE	
D6502	LWE67C/U2V45C/X	LED	WHITE	
D6503	LWE67C/U2V45C/X	LED	WHITE	
D6504	LWE67C/U2V45C/X	LED	WHITE	
C401	NBXJ0JM-106X	TA E CAPACITOR		
C402	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
R401	NRSA6AJ-152W	MG RESISTOR	1.5kΩ 1/16W J	
R402	NRSA6AJ-470W	MG RESISTOR	47Ω 1/16W J	
R6501	NRSA6AJ-561W	MG RESISTOR	560Ω 1/16W J	
R6502	NRSA6AJ-121W	MG RESISTOR	120Ω 1/16W J	
R6503	NRSA6AJ-120W	MG RESISTOR	12Ω 1/16W J	
R6504	NRSA6AJ-120W	MG RESISTOR	12Ω 1/16W J	
R6505	NRSA6AJ-120W	MG RESISTOR	12Ω 1/16W J	
R6506	NRSA6AJ-120W	MG RESISTOR	12Ω 1/16W J	
L401	NQR0265-001X	FERRITE BEADS		
BT401	QAB0040-001	LITHIUM BATTERY		
CN401	QGF0532F2-12X	CONNECTOR	MAIN PWB FFC/FFC (1-12)	
S401	NSW0122-001X	DETECT SWITCH	EJECT SW	
OT1	LY30034-038A	SPACER(A)	BT401	
OT2	LY30034-028A	SPACER(A)	Q401	
OT3	LY30034-042A	SPACER(A)	FOR FFC	

MONITOR BOARD ASSEMBLY <05>

△ Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10461A-02	MONITOR BOARD ASSY		
IC7601	CXA3657R	IC	SONY MT+VF	
IC7602	MM1613BN-X	IC	3.1V	
IC7604	DN8797MS-X	IC		
Q7501	2SD1664/QR/-W	TRANSISTOR		
Q7502	2SD1664/QR/-W	TRANSISTOR		
Q7503	DTA144EE-X	DIGI TRANSISTOR		
Q7503	or RN2104-X	DIGI TRANSISTOR		
Q7503	or UN9113J-X	DIGI TRANSISTOR		
Q7504	2SC4617/QR/-X	TRANSISTOR		
Q7504	or 2SC4738/YG/-X	TRANSISTOR		
D7601	UDZS5.6B-X	Z DIODE	1.5kΩ 1/10W J	
C7501	NCZ1016-150X	C CAPACITOR	15pF 2kV J	
C7502	NCZ1016-150X	C CAPACITOR	15pF 2kV J	
C7503	NFV41HJ-183X	MPPS CAPACITOR	0.018uF 50V J	
C7504	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C7510	NCB10JK-106X	C CAPACITOR	10uF 6.3V K	
C7602	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C7603	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C7607	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C7608	NCB31CK-223X	C CAPACITOR	0.022uF 16V K	
C7609	NBE21AM-335X	TA E CAPACITOR	3.3uF 10V M	
C7610	NCB31HK-682X	C CAPACITOR	6800pF 50V K	
C7611	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7612	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C7613	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7614	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7615	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7616	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7617	NBE21AM-106X	TA E CAPACITOR	10uF 10V M	
C7618	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C7619	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C7620	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	
C7621	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7622	NCB20JM-475X	C CAPACITOR	4.7uF 6.3V M	
C7623	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7624	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7625	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M	
C7626	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7627	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	

MODEL	MARK	MODEL	MARK	MODEL	MARK
GR-DX67EK	A	GR-DX77EY	E	GR-DX97EX	J
GR-DX77EK	B	GR-DX77EZ	F	GR-DX97EY	K
GR-DX77ER	C	GR-DX78EX	G	GR-DX97EZ	L
GR-DX77EX	D	GR-DX97EK	H		

Symbol No.	Part No.	Part Name	Description	Local
C7628	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7629	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C7630	NCB21CK-105X	C CAPACITOR	1uF 16V K	
R7501	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R7502	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R7506	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R7507	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R7606	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7608	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7609	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7610	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7611	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7612	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7613	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7614	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R7615	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R7616	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R7618	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
L7501	NQL76EM-680X	COIL	68uH M	
L7502	NQL76EM-220X	COIL	22uH M	
L7601	NQL04DK-100X	COIL	10uH K	
L7602	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
L7603	NQL38DK-101X	P COIL	100uH K	
L7604	NQL04DK-100X	COIL	10uH K	
△ T7501	NQS0060-001X	SW TARNSE		
CN7601	QGF0530F3-20W	CONNECTOR	MAIN FFC/FPC (1-20)	
CN7602	QGF0530F3-20W	CONNECTOR	MAIN FFC/FPC (1-20)	
CN7603	QGF0530F3-24W	CONNECTOR	LCD FFC/FPC (1-24)	
△ F7501	NMFZ007-R40X-K	FUSE	0.4A 50V	
OT1	LY44581-001A	SHEET(CUSHION)		
WR1	QAL0548-001	FPC		

VF BOARD ASSEMBLY <06>

Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10462A	VF BOARD ASSY		
Q7001	2SC4617/QR/-X	TRANSISTOR		
Q7001	or 2SC4738/YG/-X	TRANSISTOR		
D7001	E1S35AW0C501-X	LED		
D7002	UDZS5.6B-X	Z DIODE	1.5kΩ 1/10W J	
C7003	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7004	NCB21CK-105X	C CAPACITOR	1uF 16V K	
R7001	NRVA63D-682X	CMF RESISTOR	6.8kΩ 1/16W D	
R7002	NRVA63D-272X	CMF RESISTOR	2.7kΩ 1/16W D	
R7003	NRVA63D-390X	CMF RESISTOR	39Ω 1/16W D	
R7004	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R7005	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7006	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
CN7001	QGF0532F2-20X	CONNECTOR	MAIN FFC/FPC (1-20)	
CN7002	QGF0532F2-20X	CONNECTOR	LCD FFC/FPC (1-20)	

SD BOARD ASSEMBLY <07>

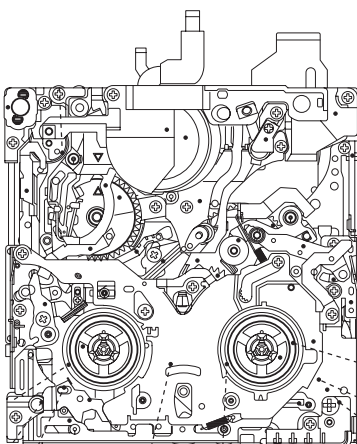
Symbol No.	Part No.	Part Name	Description	Local
PW1	YB10463A-01	SD BOARD ASSY		
D8501	EMZ6.8N-X	Z DIODE		
C8501	NBZ0015-106X	TA E CAPACITOR	10uF 6.3V M	
C8502	NCBA1AK-104W	C CAPACITOR	0.1uF 10V K	
R8501	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	
R8502	NRSA6AJ-103W	MG RESISTOR	10kΩ 1/16W J	

JVC

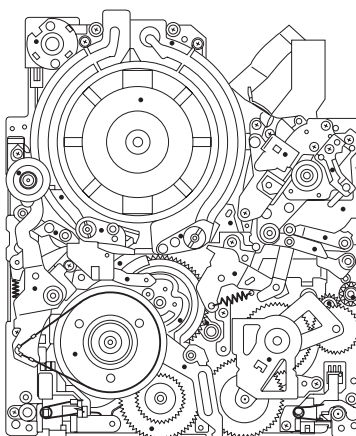
SERVICE MANUAL

MECHANISM ASSEMBLY

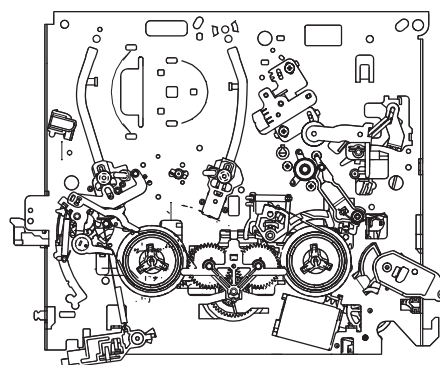
DVC MECHANISM VHS-C MECHANISM VHS MECHANISM



<DVC MECHANISM>



<VHS-C MECHANISM>



<VHS MECHANISM>

TABLE OF CONTENTS

1	JIGS AND TOOLS	1-1
2	SPECIFIC SERVICE INSTRUCTIONS	2-1
3	PARTS LIST	3-1

SECTION 1

JIGS AND TOOLS

1.1 TOOLS REQUIRED FOR ADJUSTMENTS

1. Torque driver YTU94088	2. Bit YTU94088-003
3. Tweezers P-895	4. Chip IC replacement jig PTS40844-2
5. Slit washer installation jig YTU94121A	6. Cleaning cloth KSMM-01

Fig.1-1-1

1. Torque driver

Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.

Torque setting value of torque driver is limited. At the values over the maximum torque setting value, fasten a screw manually not to damage the screw thread.

2. Bit

This bit is slightly longer than those set in conventional torque drivers.

3. Tweezers

To be used for removing and installing parts and wires.

4. Chip IC replacement jig

To be used for replacement of part.

5. Slit washer installation jig

To be used to install slit washers.

6. Cleaning cloth

Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

2.1 DVC MECHANISM

2.1.1 Precautions

- (1) When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.055 N•m (0.56 kgf•cm).
- (2) Be sure to disconnect the set from the power supply before fastening and soldering parts.
- (3) When disconnecting/connecting wires, be careful not to get them and their connectors damaged.
- (4) When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

2.1.2 Notes on procedure for disassembly/assembly

The disassembling procedure table (Fig. 2-1-10 on page 2-4, a part of the table is shown below for reference) shows the procedure to disassemble/reassemble mechanism parts.

Carefully read the following explanation before starting actual disassembling/reassembling work. The item numbers (circled numbers) in the following explanation correspond to those appearing under respective columns of the table.

Example

NO.	PART NAME		FIG.	POINT	NOTE	REMARKS
[1]	CASSETTE HOUSING ASSY	T	Fig.2-4-3	3(S1),(L1a)-(L1e)	NOTE 1 a,b,c,d	ADJUSTMENT
[2]	UPPER BASE ASSY	T	Fig.2-4-4	(S2),(L2a),(L2b)	NOTE 2	
[3]	DRUM ASSY	T		(S3a),2(S3b)	NOTE 3 a,b	
[4]	REEL DISK ASSY(SUP)	T	Fig.2-4-5	(W4)	NOTE 4 a	
[5]	REEL DISK ASSY(TU)	T		(W5a),(W5b),(W5c)	NOTE 5 a,b	
[6]	REEL COVER ASSY	T		(W6),(S6a),2(S6b)	NOTE 6	ADJUSTMENT

↑
*1

↑
*2

↑
*3

↑
*4

↑
*5

↑
*6

↑
*7

*1 Numbers appearing in this column indicate the order to remove parts. When reassembling, follow these numbers in the reverse order. Circled numbers in this column correspond to those appearing in drawings of this section.

*2 This column shows part names corresponding to numbers in the left column.

*3 The symbol (T or B) appearing in this column shows the side which the objective part is mounted on.

T =the upper side, B =the lower side

*4 Symbols appearing in this column indicate drawing numbers.

*5 This column indicates parts and points such as screws, washers, springs, and others to be removed/fitted for disassembling/reassembling the mechanism. Besides such the parts, this column occasionally indicates working points.

P = Spring

W = Washer

S = Screw

* = Lock (L), soldering (SD), shield, connector (CN), etc.

*6 Numbers in this column represent the numbers of notes in the text.

(For parts that need phase adjustment after reassembling, refer to "MECHANISM ADJUSTMENTS".)

*7 This column indicates required after-disassembling/-reassembling work such as phase adjustment or mechanism adjustment.

Example

- Remove (W1)=Washer W1.
- Remove the solder at (SD1)=Point SD1.
- Disconnect A = Connector A.

2.1.3 DISASSEMBLY AND ASSEMBLY OF MECHANISM ASSEMBLY

2.1.3.1 General statement

The mechanism should generally be disassembled/assembled in the C.IN mode (ASSEMBLY mode). (Refer to Fig. 2-1-1,2-1-2.) However, when the mechanism is removed from the main body, it is set in the STOP mode. Therefore, after the mechanism is removed from the main body, supply 3 V DC to the electrode on the top of the loading motor to enter the mechanism mode into the C IN mode compulsory.

<Mechanism assembly/Cassette housing assembly>

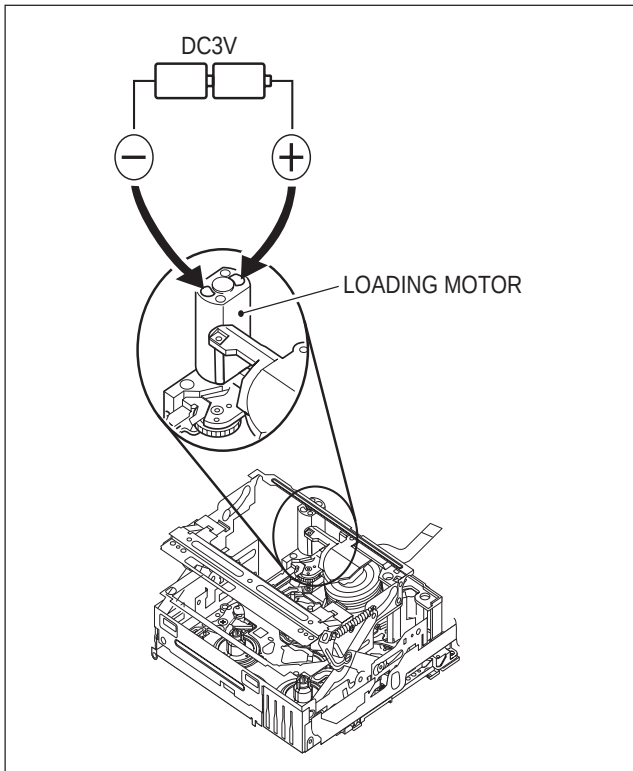


Fig.2-1-1

<Back side of the mechanism assembly>

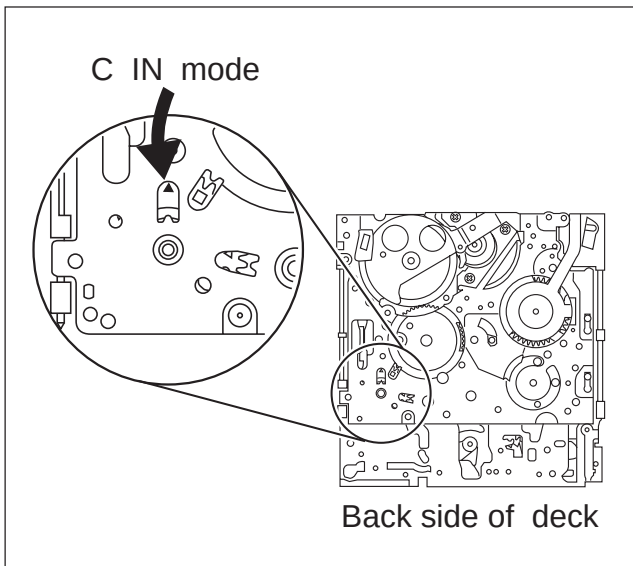


Fig.2-1-2

2.1.3.2 Explanation of mechanism mode

The mechanism mode of this model is classified into five modes as shown in Fig. 2-1-9. Each mechanism mode can be distinguished from others by the relative position of "△", "○", "○", "□" marks on the sub cam gear to the inner or outer protrusion on the main deck.

Refer to Fig. 2-1-3 to 2-1-8 below.

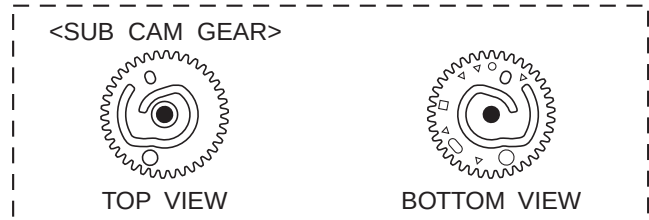


Fig.2-1-3

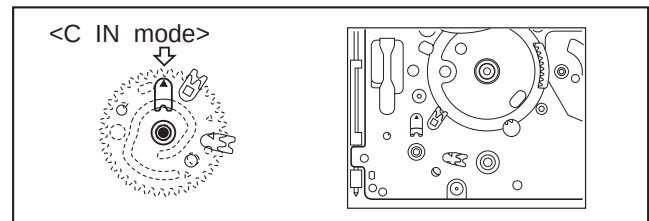


Fig.2-1-4

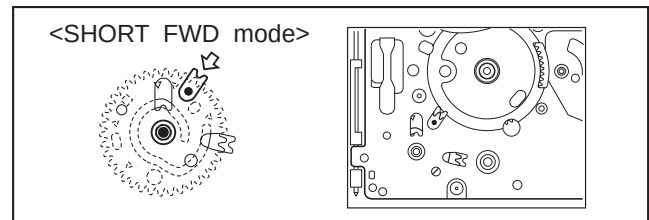


Fig.2-1-5

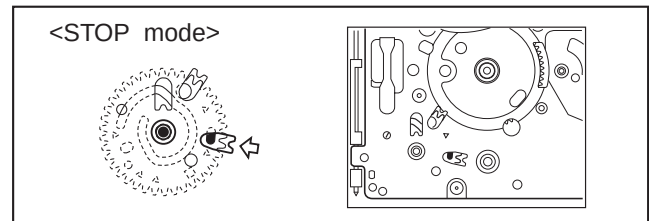


Fig.2-1-6

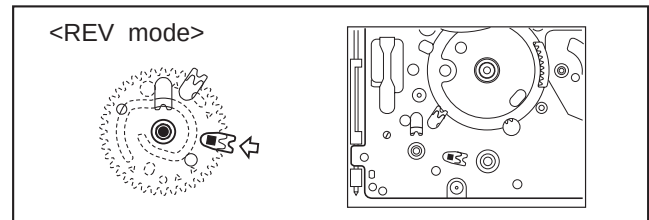


Fig.2-1-7

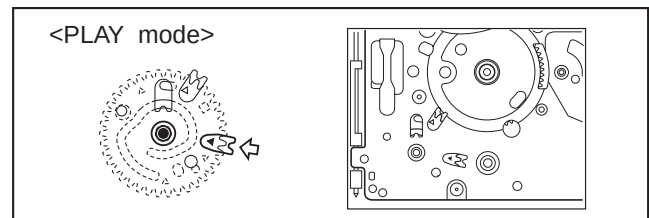


Fig.2-1-8

2.1.3.3 Mechanism timing chart

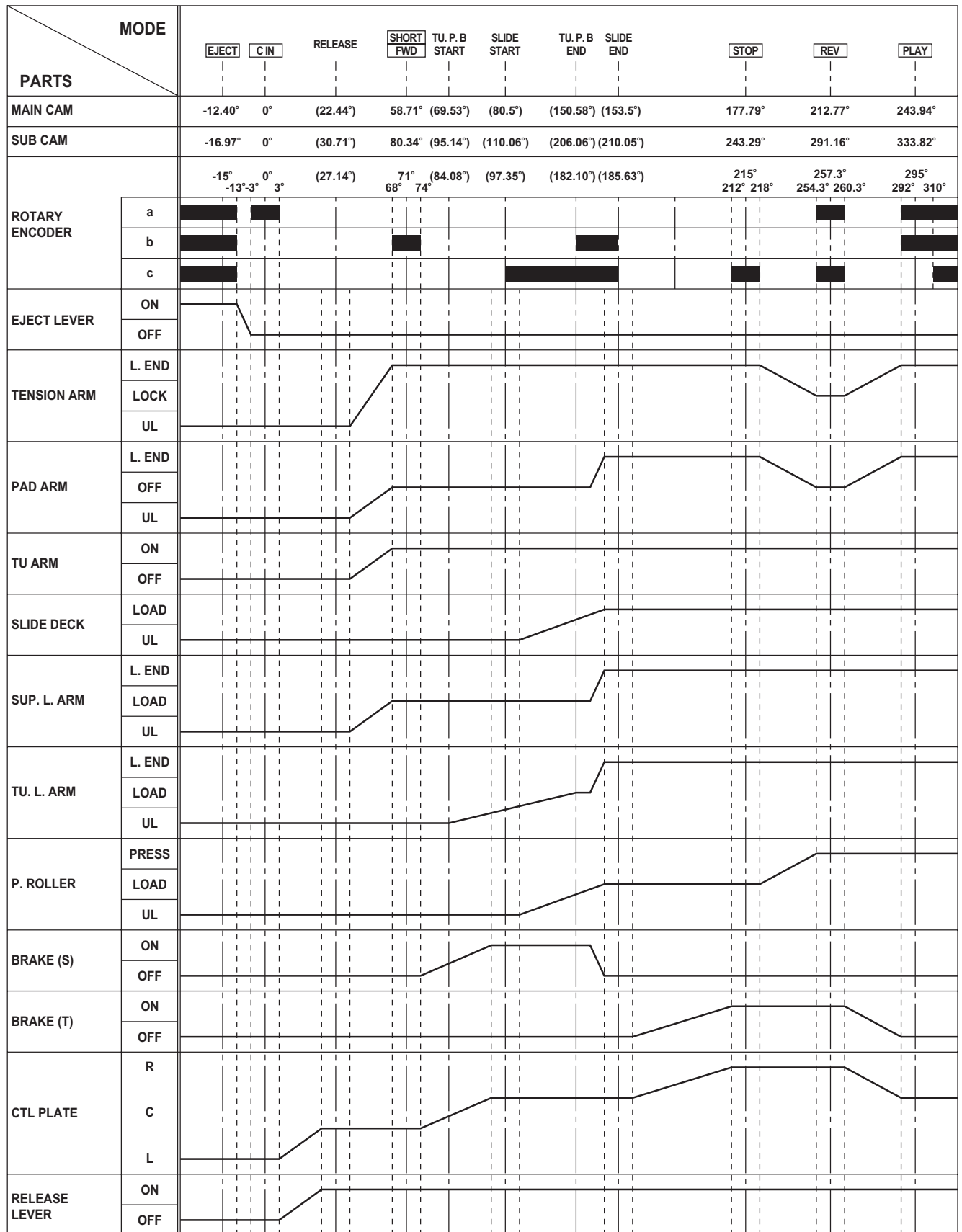


Fig.2-1-9

2.1.4 DISASSEMBLY PROCEDURE TABLE

MARK: # After assembly, perform adjustments.

NO.	PART NAME		FIG.	POINT	NOTE	REMARKS
[1]	CASSETTE HOUSING ASSY	T	Fig.2-1-14	3(S1),(L1a)-(L1e)	NOTE 1 a,b,c,d	ADJUSTMENT
[2]	UPPER BASE ASSY	T	Fig.2-1-15	(S2),(L2a),(L2b)	NOTE 2	
[3]	DRUM ASSY	T		(S3a),2(S3b)	NOTE 3 a,b	ADJUSTMENT
[4]	REEL DISK ASSY(SUP)	T	Fig.2-1-16	(W4)	NOTE 4	
[5]	REEL DISK ASSY(TU)	T		(W5a),(W5b)	NOTE 5 a,b	
[6]	REEL COVER ASSY	T		(W6),2(S6a),(S6b)	NOTE 6	
[7]	TENSION ARM ASSY	T	Fig.2-1-17	(L7)	NOTE 7	ADJUSTMENT / #
[8]	SLANT POLE ARM ASSY	T		(P8)	NOTE 8	ADJUSTMENT
[9]	TU ARM ASSY	T		(L9)	NOTE 9	ADJUSTMENT
[10]	SWING ARM ASSY	T		(S10)	NOTE 10	ADJUSTMENT
[11]	SLIDE DECK ASSY	T	Fig.2-1-18	2(S11a),(S11b),2(L11a), 2(L11b),(L11c)	NOTE 11a,b	ADJUSTMENT / #
[12]	PAD ARM ASSY	T	Fig.2-1-19	(P12),(L12),(W12)	NOTE 12	ADJUSTMENT / #
[13]	-	-		-	-	
[14]	TU BRAKE ASSY	T		(P14),(L14),(W14)	NOTE 14	ADJUSTMENT
[15]	TENSION CTL LEVER ASSY	T	Fig.2-1-20	(W15)	NOTE 15	ADJUSTMENT
[16]	CENTER GEAR	T		-	NOTE 16	
[17]	PINCH ROLLER ARM F. ASSY	T		(W17)	NOTE 17	ADJUSTMENT
[18]	TENSION CTL PLATE ASSY	T		-	NOTE 18	ADJUSTMENT
[19]	BRAKE CTL LEVER ASSY	T		-	NOTE 19	ADJUSTMENT
[20]	MOTOR BRACKET ASSY	T	Fig.2-1-21	3(S20),(L20a),2(L20b)	NOTE 20	ADJUSTMENT
[21]	GUIDE RAIL ASSY	T		2(W21),(S21),2(L21a),(L21b)	NOTE 21	ADJUSTMENT
[22]	SLIDE LEVER 2 ASSY	T		-	NOTE 22	ADJUSTMENT / #
[23]	LOADING PLATE ASSY	T		(W23)	NOTE 23	ADJUSTMENT
[24]	MODE GEAR	T		-	NOTE 24	
[25]	EJECT LEVER	T		(W25)	NOTE 25	ADJUSTMENT
[26]	BASE R ASSY	T	Fig.2-1-22	(S26a),(S26b),2(L26)	NOTE 26	ADJUSTMENT
[27]	ROTARY ENCODER	T		2(S27)	NOTE 27	PHASE ADJUSTMENT
[28]	GEAR COVER ASSY	T		(S28a),2(S28b)	-	
[29]	MAIN CAM ASSY	T		-	NOTE 29	PHASE ADJUSTMENT
[30]	SLIDE ARM ASSY	T	Fig.2-1-23	-	NOTE 30	ADJUSTMENT
[31]	CONNECT GEAR 2	T		-	NOTE 31	
[32]	SUB CAM ASSY	T		(S32)	NOTE 32	PHASE ADJUSTMENT
[33]	CONTROL ARM ASSY	T		-	NOTE 33	ADJUSTMENT
[34]	REEL GEAR 1	T		-	NOTE 34	
[35] / [36]	DRUM BASE ASSY/ CAPSTAN MOTOR	T	Fig.2-1-24	3(S35)	NOTE 35a,b	ADJUSTMENT
[36]	CAPSTAN MOTOR	T		(S36)	NOTE 36	ADJUSTMENT
[37]	MAIN DECK ASSY	T		-	-	

Fig.2-1-10

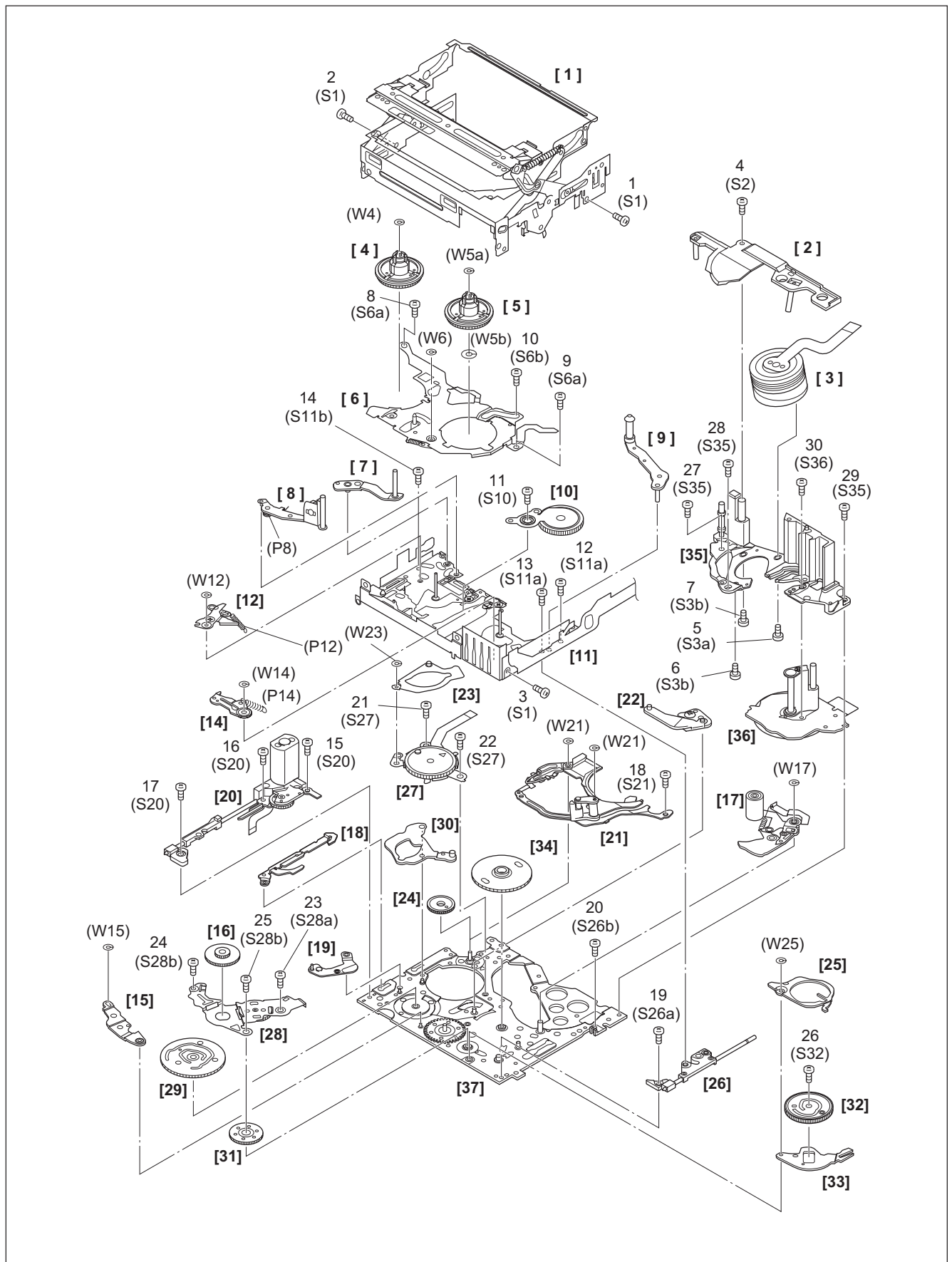


Fig.2-1-11

< TOP VIEW >

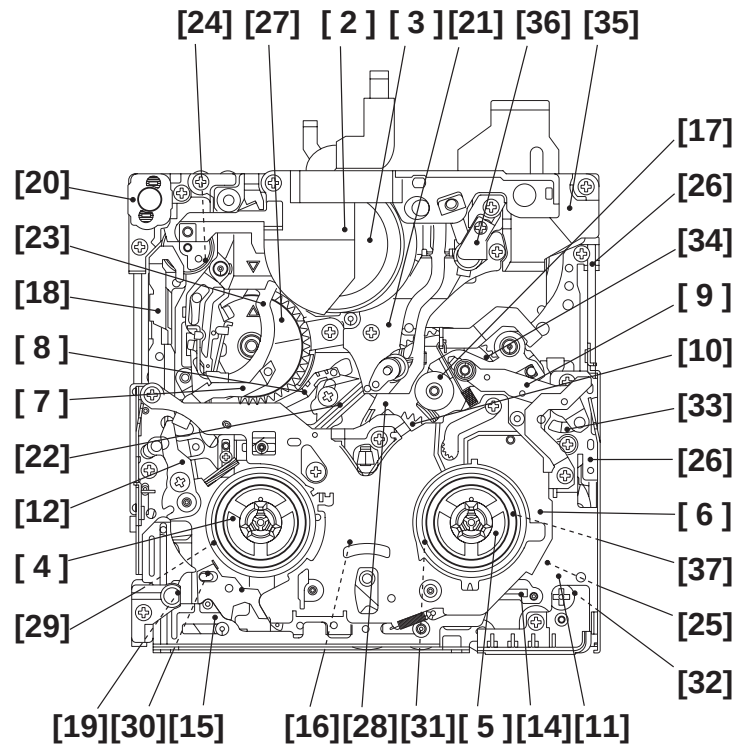


Fig.2-1-12

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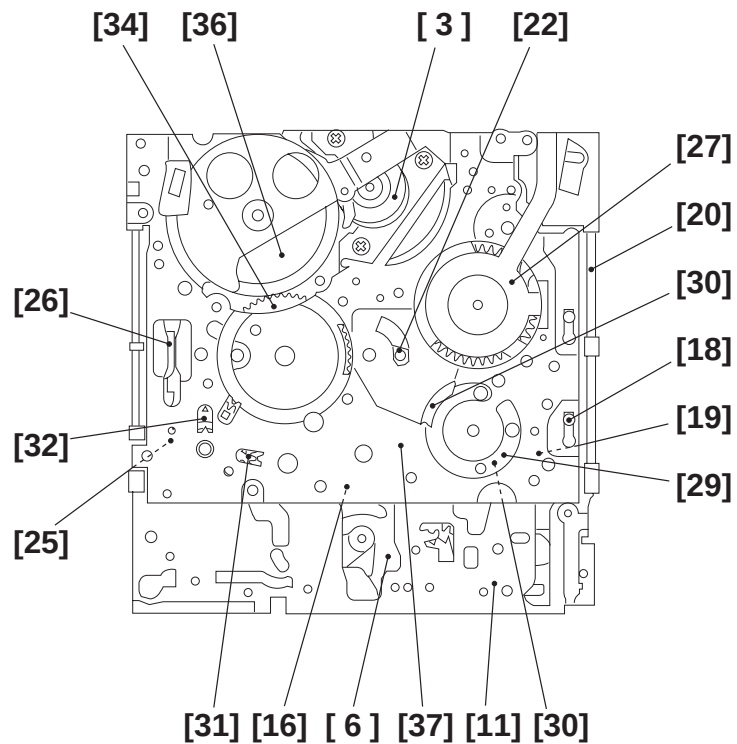


Fig.2-1-13

2.1.5 DISASSEMBLY/ASSEMBLY

2.1.5.1 [1] CASSETTE HOUSING ASSY

NOTE 1a:

Be careful not to damage any of the parts during work.

NOTE 1b:

Special care is required in mounting.

NOTE 1c:

When mounting, the CASSETTE HOUSING ASSY should be attached in the Eject status. Pay heed to the positions of the LOCK LEVER and EJECT LEVER during mounting.

NOTE 1d:

When mounting, be sure to locate the FPC in the gap.

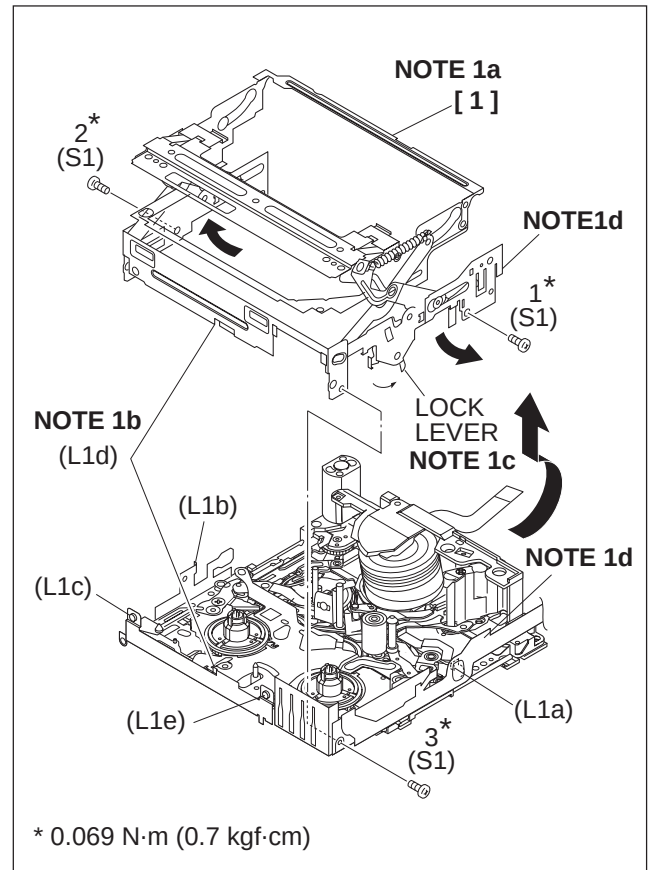
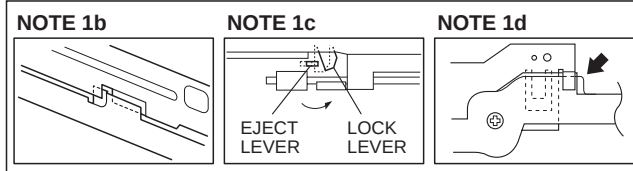


Fig.2-1-14

2.1.5.2 [2] UPPER BASE ASSY

[3] DRUM ASSY

NOTE 2:

When mounting, be sure to insert the FPC reinforcing sheet.

NOTE 3a:

Be mindful of scratches or damage during work.

NOTE 3b:

Be careful not to attach screws incorrectly.

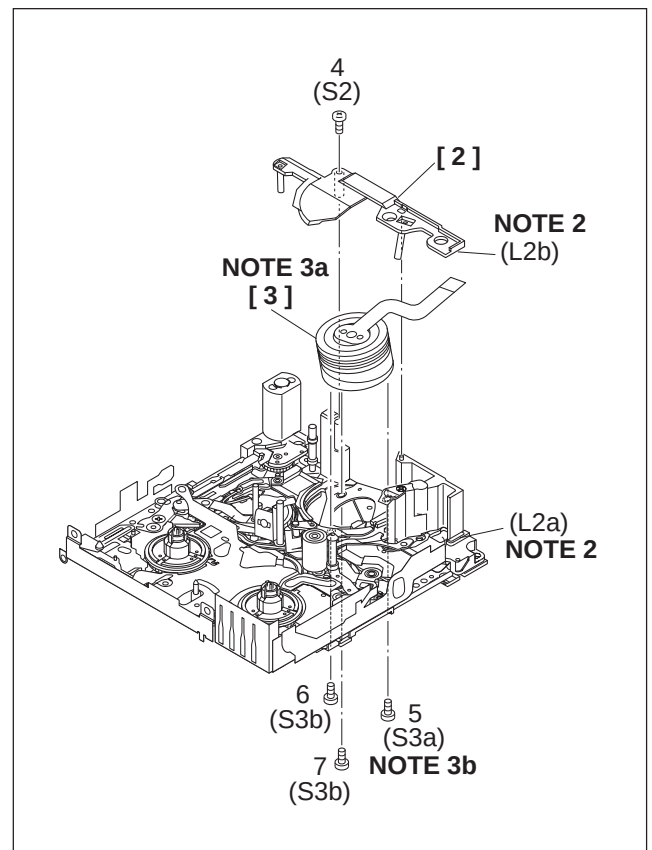
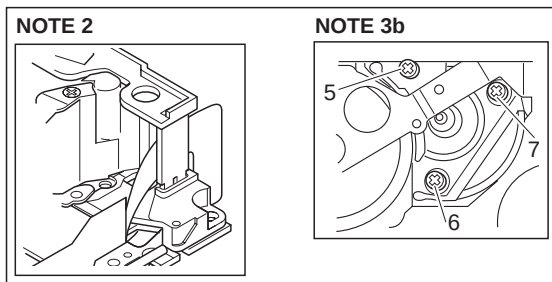


Fig.2-1-15

2.1.5.3 [4] REEL DISK ASSY(SUP)
[5] REEL DISK ASSY(TU)
[6] REEL COVER ASSY

NOTE 4:

Be careful not to attach the REEL DISK wrongly. The Supply side can be identified by the white color at the center.

NOTE 5a:

Be careful not to attach the REEL DISK wrongly. The Take-up side can be identified by the black color at the center.

NOTE 5b

The washer is inserted under the REEL DISK.

Be careful not to lose the washer.

Two washers are inserted under the REEL DISK in some products manufactured earlier, but one washer is inserted in the products manufactured recently and in the future.

See the parts list, and use the parts written in the parts list.

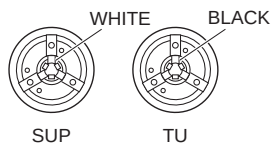
NOTE 6:

Perform the following steps for mounting.

- (1) Align the hole with the pin.
- (2) Attach the [17] PINCH ROLLER ARM FINAL ASSY by aligning the positions.
- (3) Attach the SLIDE DECK ASSY (POINT[A]) by aligning the positions.
- (4) Check that the parts below them are located in the correct positions.
- (5) Tighten the 2 screws.
- (6) Tighten the screw.
- (7) Attach the 1 SLIT WASHER parts.

NOTE 4, 5

REEL DISK ASSY



NOTE 6

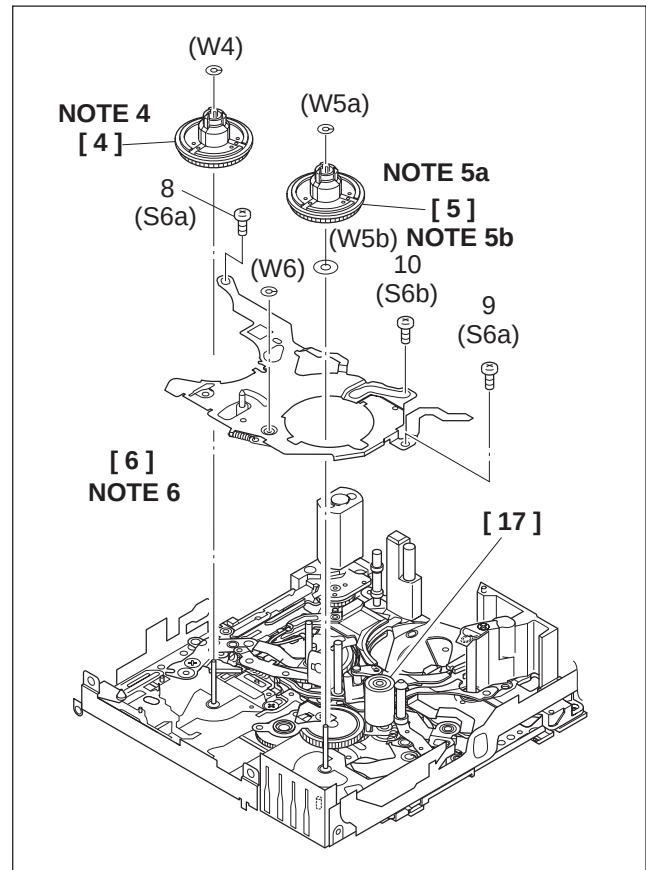
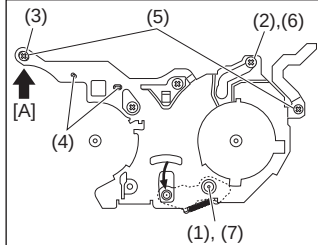


Fig.2-1-16

2.1.5.4 [7] TENSION ARM ASSY
 [8] SLANT POLE ARM ASSY
 [9] TU ARM ASSY
 [10] SWING ARM ASSY

NOTE 7:

When detaching, remove the spring of the [12] PAD ARM ASSY in advance.

Pay attention to the attachment position.

NOTE 8:

When mounting the SLANT POLE ARM ASSY, hook the spring onto the lug as in diagram A, and fit the combination onto the SLIDE DECK ASSY. After fitting, hook the spring onto the lug of the SLIDE DECK ASSY as in diagram B.

Be careful not to lose the spring.

NOTE 9:

Pay attention to the attachment position.

NOTE 10:

When detaching, remove the screw then remove the SWING ARM ASSY by pulling it up and turning it.

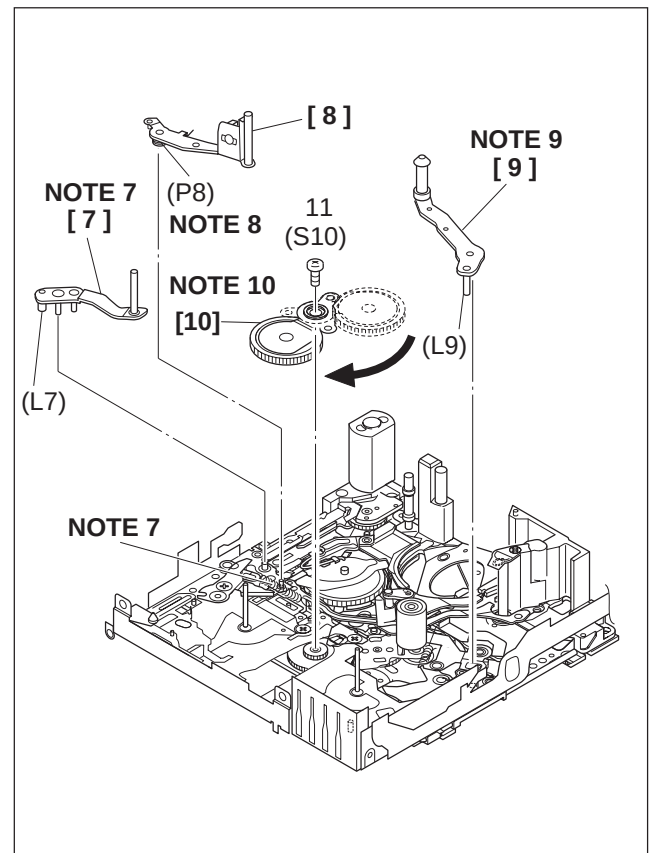
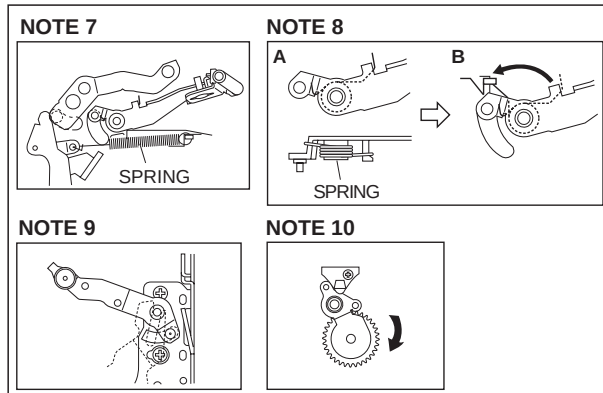


Fig.2-1-17

2.1.5.5 [11] SLIDE DECK ASSY

NOTE 11a:

Each of the parts on the SLIDE DECK ASSY can be replaced separately.

When detaching the assembly, if there is no need to replace any of its parts, remove the SLIDE DECK ASSY as it is.

NOTE 11b:

When mounting, pay attention to the positions of the [22] SLIDE LEVER 2 ASSY studs and the [19] BRAKE CTL LEVER ASSY.

When mounting, position the CONTROL PLATE on the left side.

Pay attention to the position of the SLIDE GUIDE PLATE during mounting.

NOTE 11b

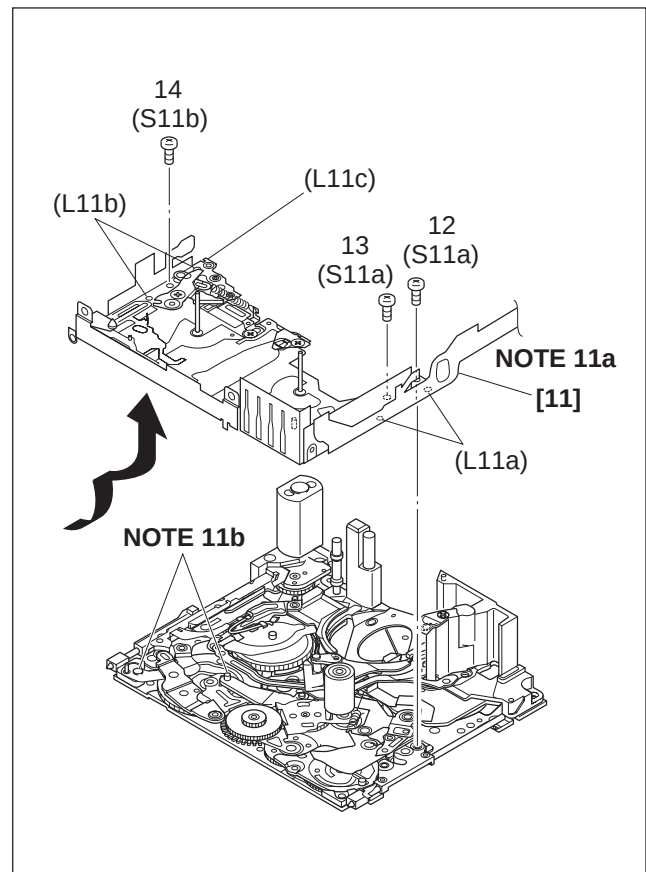
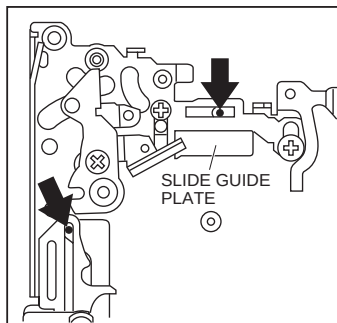


Fig.2-1-18

2.1.5.6 [12] PAD ARM ASSY

[13] -

[14] TU BRAKE ASSY

NOTE 12:

The spring may have already been disengaged when the [8] SLANT POLE ARM ASSY was removed.

NOTES 14:

When mounting, pay attention to the correct positioning. Mount the CONTROL PLATE by moving it fully toward the left side.

NOTE 12,14

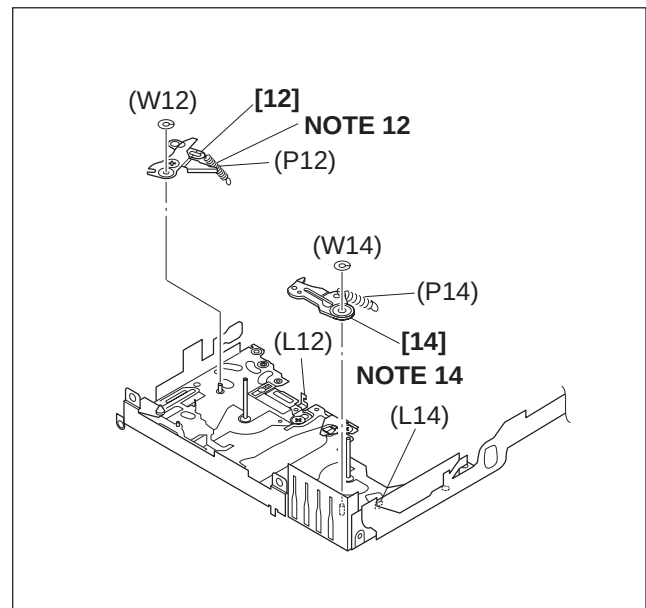
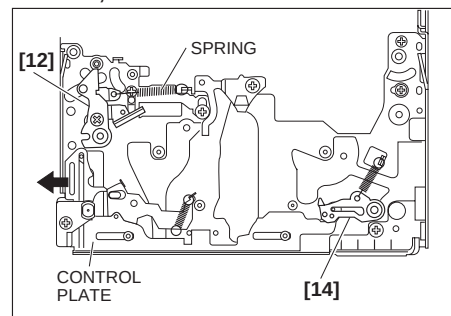


Fig.2-1-19

- 2.1.5.7 [15] TENSION CTL LEVER ASSY
 [16] CENTER GEAR
 [17] PINCH ROLLER ARM FINAL ASSY
 [18] TENSION CTL PLATE ASSY
 [19] BRAKE CTL LEVER ASSY

NOTES 15/16:

When mounting, pay attention to the correct positioning.

NOTE 17:

Take care against grease attachment during work.

NOTES 18/19:

When mounting, pay attention to the correct positioning.

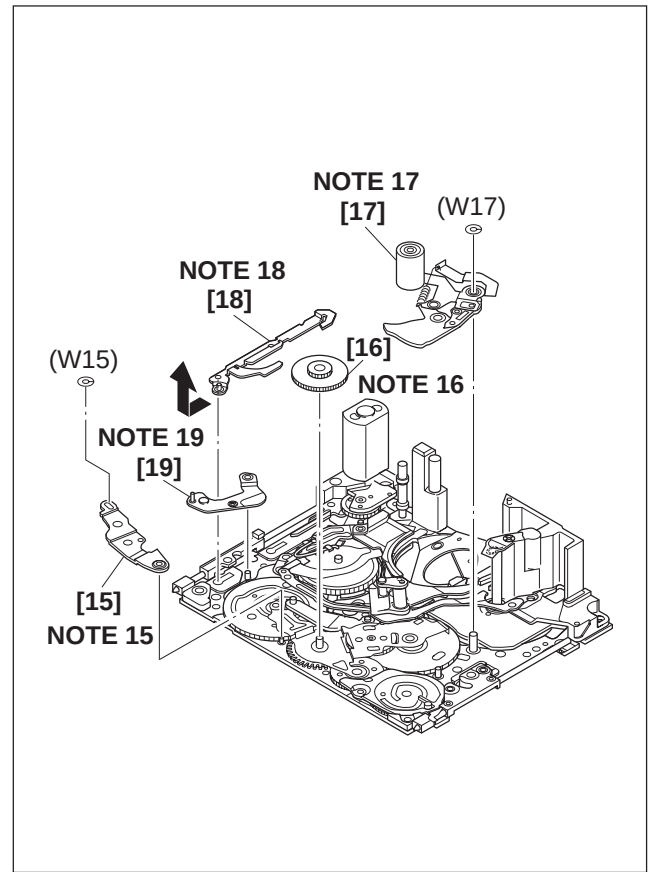
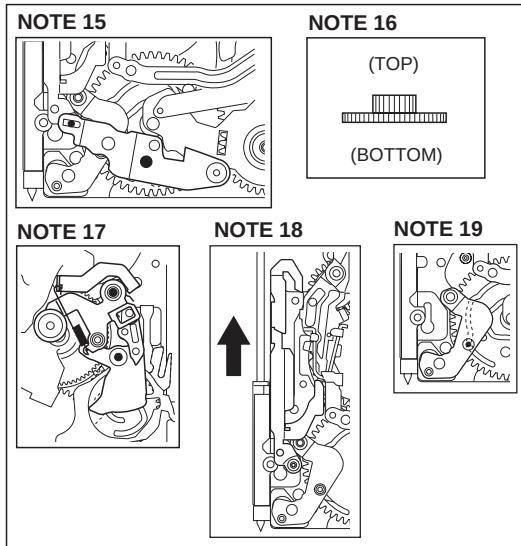


Fig.2-1-20

- 2.1.5.8 [20] MOTOR BRACKET ASSY
 [21] GUIDE RAIL ASSY
 [22] SLIDE LEVER 2 ASSY
 [23] LOADING PLATE ASSY
 [24] MODE GEAR
 [25] EJECT LEVER

NOTE 20:

When mounting, pay attention to the positioning of the sliding parts.

NOTE 21:

When mounting, take care that no part is allowed to float or rattle.

NOTES 22/23/24/25:

When mounting, pay attention to the correct positioning.

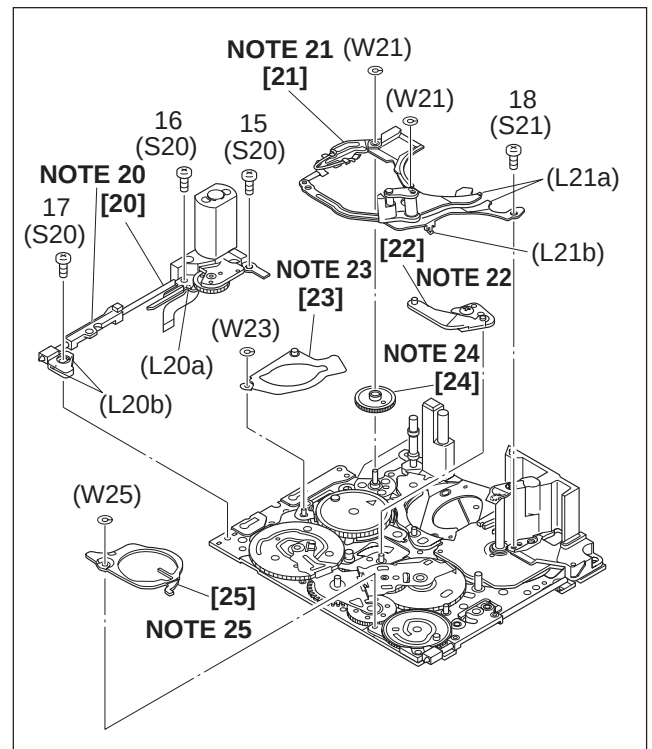
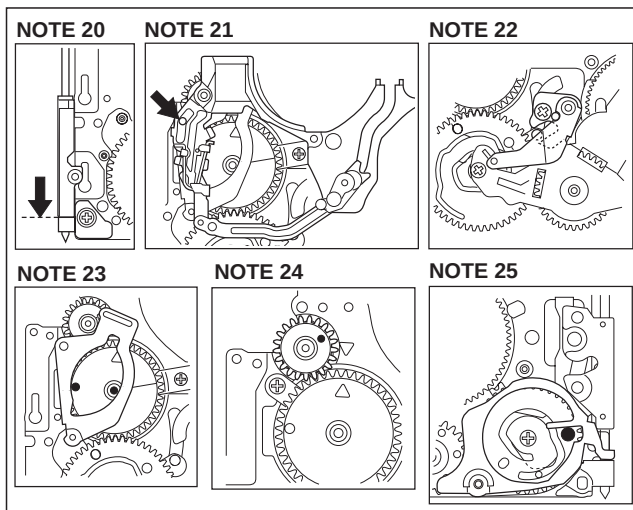


Fig.2-1-21

2.1.5.9 [26] BASE R ASSY
[27] ROTARY ENCODER
[28] GEAR COVER ASSY
[29] MAIN CAM ASSY

NOTE 26:

When mounting, fold the sliding part to the inner side.

NOTE 27:

When mounting, pay attention to the correct positioning and the FPC layout.

NOTE 29:

When mounting, pay attention to the correct positioning.

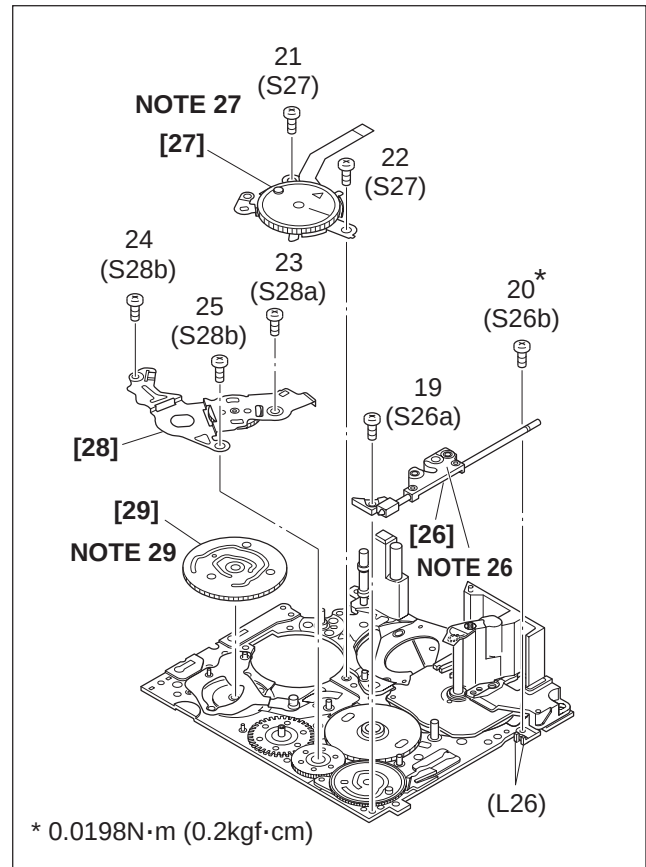
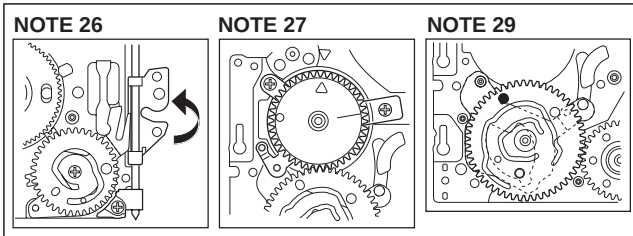


Fig.2-1-22

2.1.5.10 [30] SLIDE ARM ASSY
[31] CONNECT GEAR 2
[32] SUB CAM ASSY
[33] CONTROL ARM ASSY
[34] REEL GEAR 1

NOTE 30:

When mounting, pay attention to the correct positioning.

NOTE 31:

When mounting, pay attention to the position of the front and back.

NOTES 32/33/34:

When mounting, pay attention to the correct positioning.

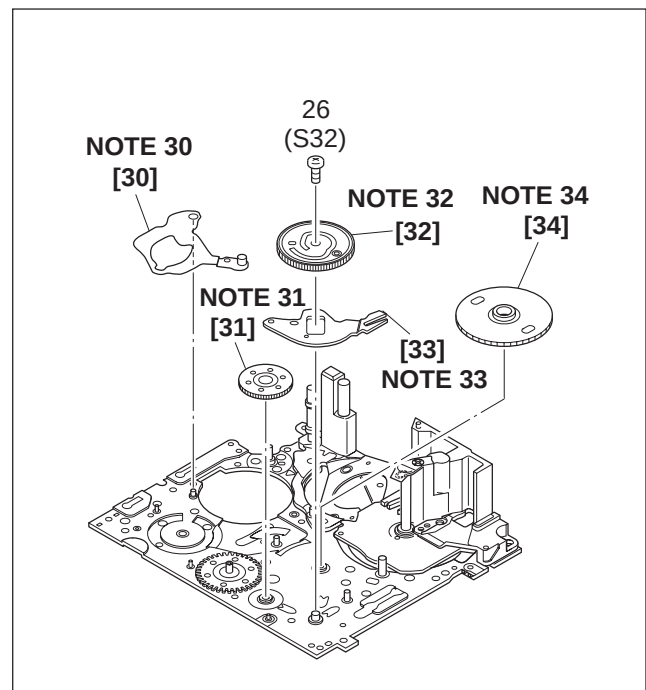
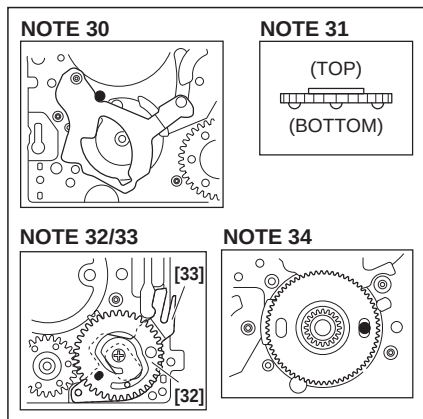


Fig.2-1-23

**2.1.5.11 [35] DRUM BASE ASSY
[36] CAPSTAN MOTOR
[37] MAIN DECK ASSY**

NOTES 35a/36:

Since [36]CAPSTAN MOTOR is attached to [35]DRUM BASE ASSY, remove [36]CAPSTAN MOTOR together with [35]DRUM BASE ASSY when removing [36]CAPSTAN MOTOR.

[36]CAPSTAN MOTOR should not be separated from [35]DRUM BASE ASSY except when replacing them.

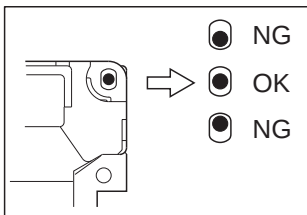
NOTE 35b:

It is very important to attach [35]DRUM BASE ASSY to the proper position.

Especially, improper engagement of [36]CAPSTAN MOTOR with [34]REEL GEAR 1 causes operational deflection or abnormal sound. Therefore, confirm the attachment position before disassembly procedure.

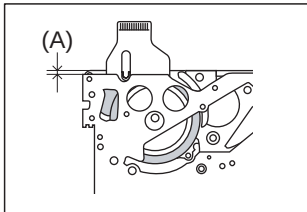
See the following figure as for the proper attachment position.

NOTE 35b



When [35]DRUM BASE ASSY is properly attached, the screw hole tends to be located at the center of the oval.

When the screw hole is located far from the center of the oval, operational deflection or abnormal sound may occur.



Before removing [35]DRUM BASE ASSY, confirm the position of [35]DRUM BASE ASSY by seeing the length (A), as shown in the left figure.

When reattaching [35]DRUM BASE ASSY, confirm the position to reattach [35]DRUM BASE ASSY by seeing the length (A). Be sure to reattach [35]DRUM BASE ASSY to the same position as it has been before the removing procedure.

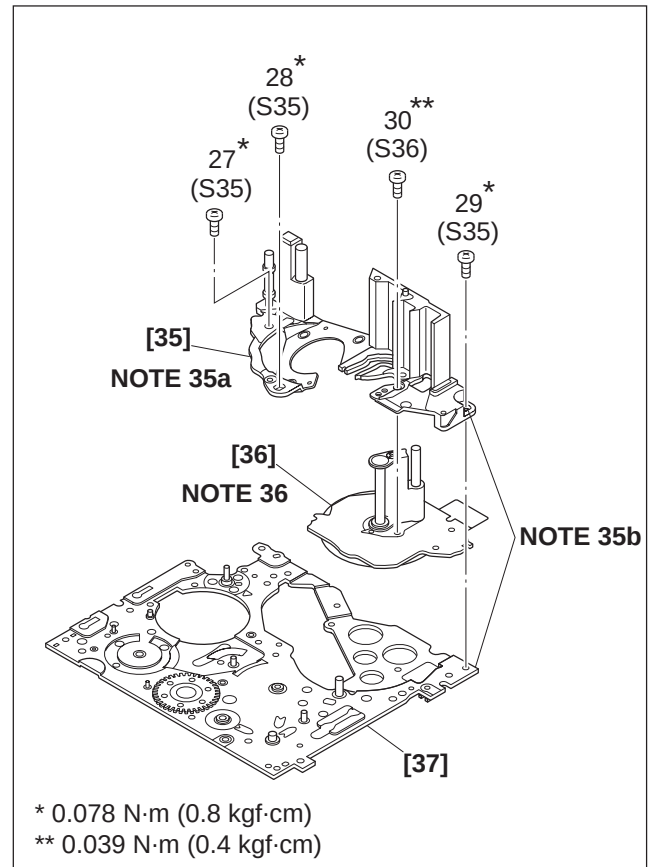


Fig.2-1-24

2.1.6 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

[24]MODE GEAR

Align the MODE GEAR with the Main Deck Assembly hole.

Note:

The MODE GEAR may be displaced during the mechanism operation, however it can be checked from the rear and realigned during manual assembly.

[27]ROTARY ENCODER

Mount the ROTARY ENCODER by aligning its mark (Δ) and the mark (∇) of the Main Deck Assembly.

Note:

Be careful when handling the FPC during mounting.

[34]REEL GEAR 1

Align the REEL GEAR 1 with the Main Deck Assembly hole.

Note:

The REEL GEAR 1 may be displaced during mechanism operation, however this can be checked from the rear and realigned during manual assembly.

[29]MAIN CAM ASSY/[30]SLIDE ARM ASSY

When mounting the SLIDE ARM ASSY align it with the Main Deck Assembly and MAIN CAM ASSY holes.

Note:

During the mounting procedure, make sure that the [32] SUB CAM ASSY is in the correct mounting position.

[32]SUB CAM ASSY/[33] CONTROL ARM ASSY

Mount the SUB CAM ASSY hole to align with the CONTROL ARM ASSY and Main Deck Assembly holes and then tighten them all together with a screw.

Note:

When mounting it, make sure that the [29]MAIN CAM ASSY is in the correct mounting position.

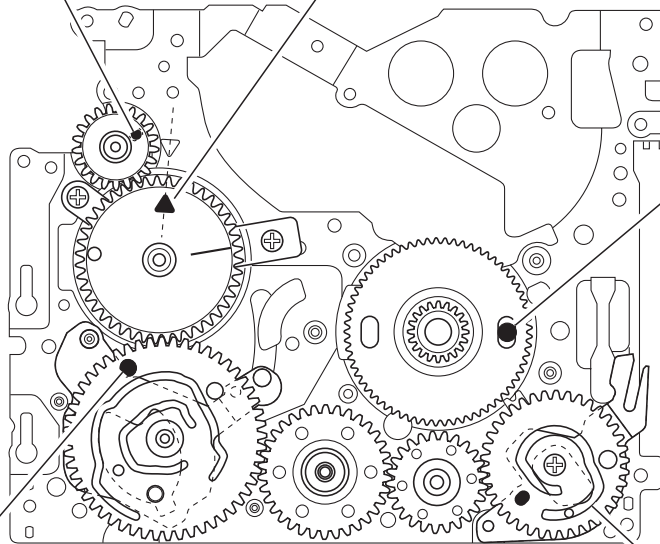


Fig.2-1-25

2.1.7 MECHANISM ADJUSTMENTS

2.1.7.1 Adjustment of the slide guide plate

Use Fig. 2-1-26 as the reference unless otherwise specified.

- (1) Set the PLAY mode. See Fig. 2-1-8.
- (2) Loosen the screws (A, B).
- (3) With the Main Deck and Slide Deck Assemblies pushed into the unit, tighten the screws (A, B) while applying pressure to the stud (shaft) on the Slide Guide plate.
The pressure applied should be enough to enable utilization of the rebounding force of the springs.
The tightening torque should be 0.069 N•m (0.7 kgf•cm).
- (4) Check the operation.
Repeat unloading and loading several times and make sure that these operations can be performed smoothly without producing rattles.

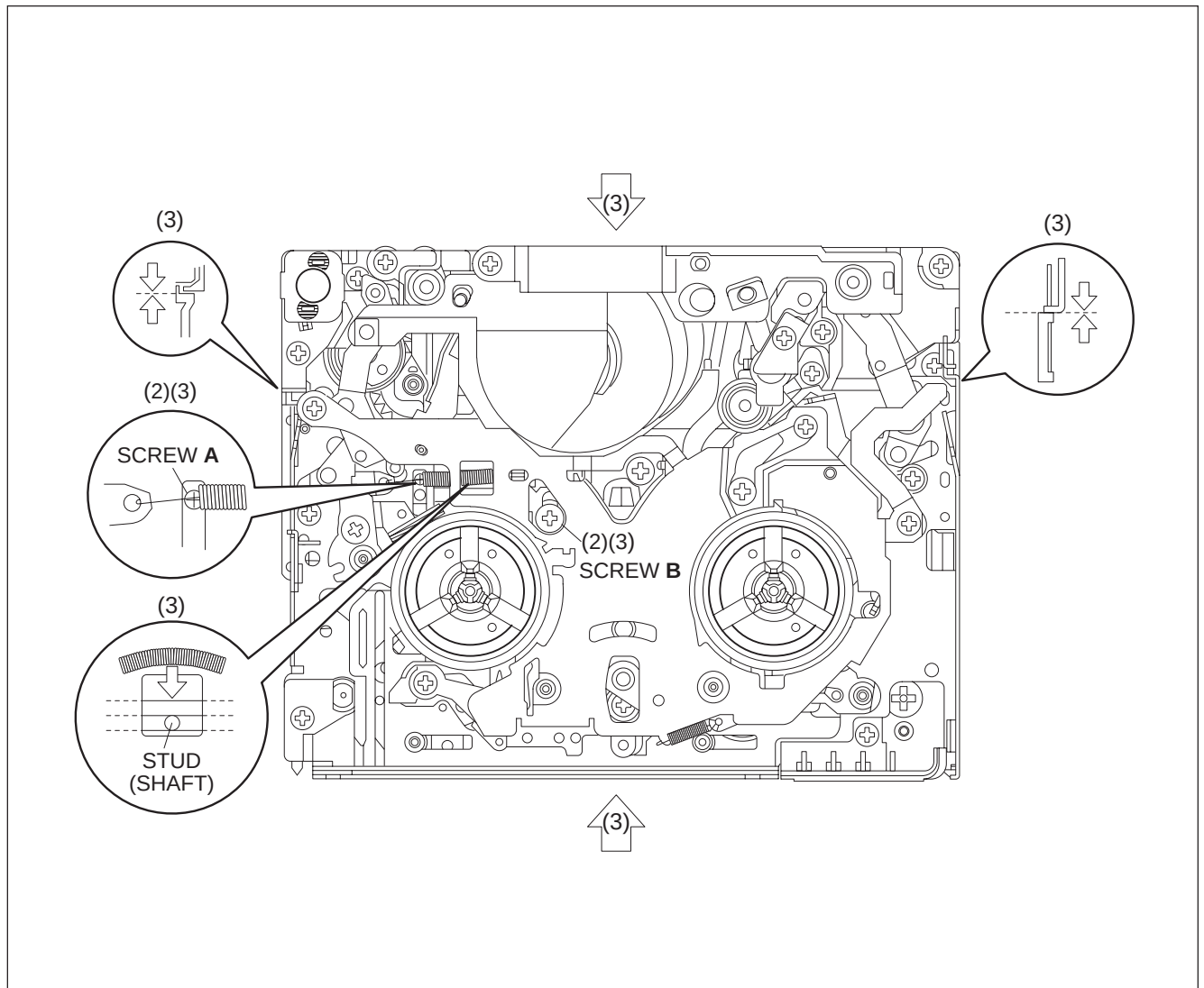


Fig.2-1-26

2.1.7.2 Adjustment of the Tension Arm and Pad Arm Assemblies

Use Fig. 2-1-27 as the reference unless otherwise specified.

- (1) Set the PLAY mode.
See Fig. 2-1-8.
- (2) Loosen the screw **A**.
- (3) With the take-up side at the bottom, align the extreme end of the Tension Arm Assembly with the crossed grooves on the screw **B** that retains the Loading Motor Assembly and then tighten the screw **A**.
The tightening torque should be 0.069 N•m (0.7 kgf•cm).
- (4) Check the operation.
Repeat unloading and loading several times and make sure that the Tension Arm Assembly is located within the normal range.

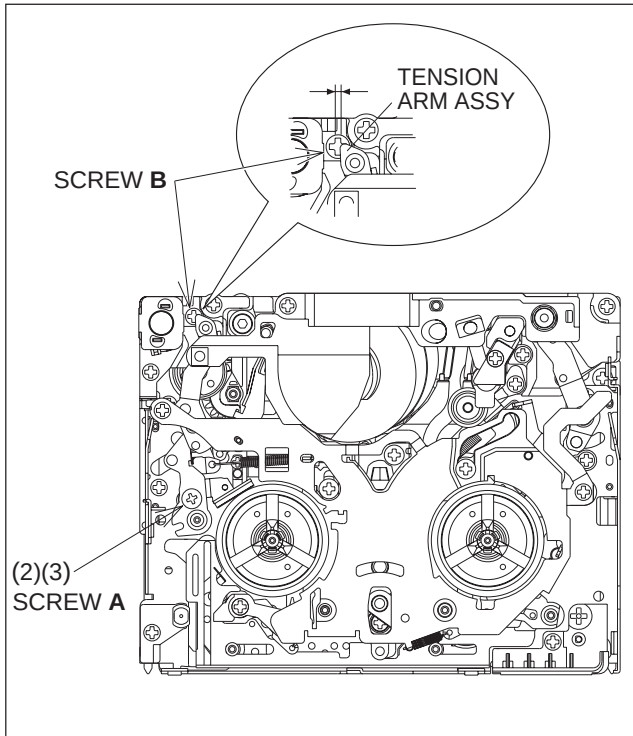


Fig.2-1-27

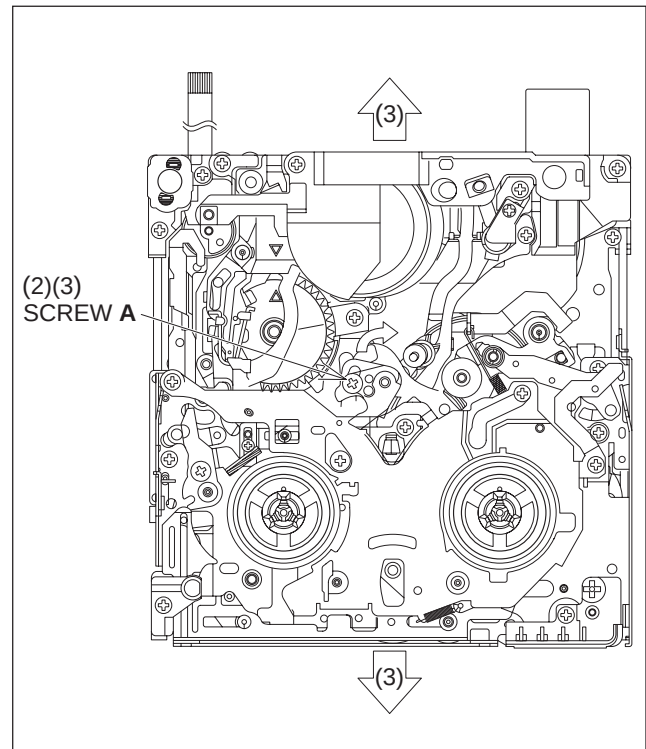


Fig.2-1-28

2.1.7.3 Adjustment of the Slide Lever 2

Use Fig. 2-1-28 as the reference unless otherwise specified.

- (1) Set the C IN mode.
See Fig. 2-1-4.
- (2) Loosen the screw **A**.
- (3) Set the Main Deck and Slide Deck Assemblies apart so that they do not rattle, then tighten the screw **A** by screwing it fully toward the Drum Assembly.
The tightening torque should be 0.069 N•m (0.7 kgf•cm).
- (4) Check the operation.
Repeat unloading and loading several times and make sure that these operations can be performed smoothly without producing rattles.

2.1.8 SERVICE NOTE

Use the following chart to manage mechanism parts that are removed for disassembling the mechanism.

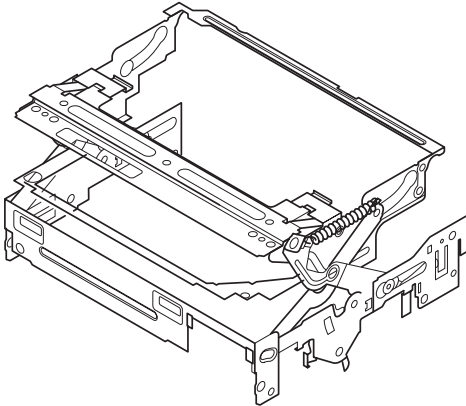
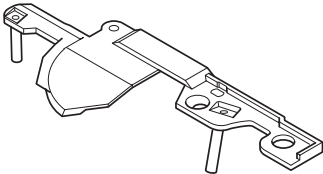
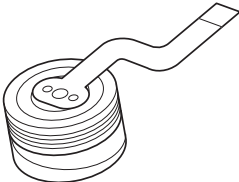
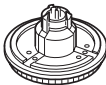
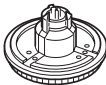
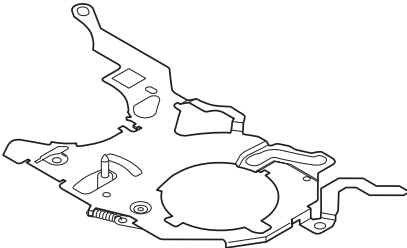
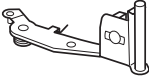
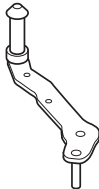
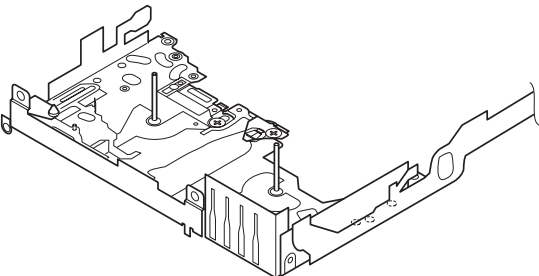
Fig.2-1-14	[1] CASSETTE HOUSING ASSY 		Fig.2-1-15		[2] UPPER BASE ASSY 	
Fig.2-1-15	[3] DRUM ASSY 	Fig.2-1-16	[4] REEL DISK ASSY(SUP)  [5] REEL DISK ASSY(TU) 	[6] REEL COVER ASSY 		
Fig.2-1-17	[7] TENSION ARM ASSY 	[8] SLANT POLE ARM ASSY 		[9] TU ARM ASSY 	[10] SWING ARM ASSY 	
Fig.2-1-18	[11] SLIDE DECK ASSY 		Fig.2-1-19	[12] PAD ARM ASSY 	[13] —	[14] TU BRAKE ASSY 

Fig.2-1-29

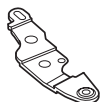
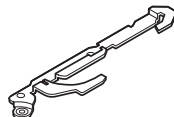
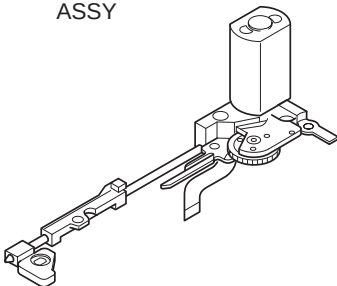
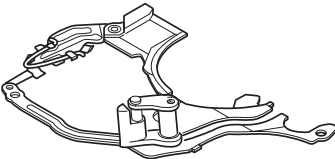
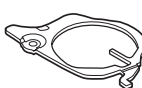
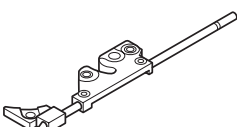
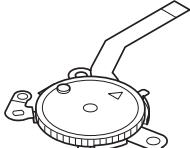
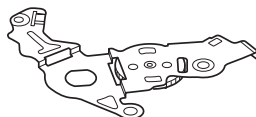
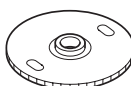
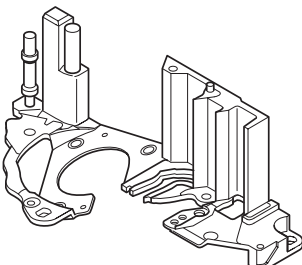
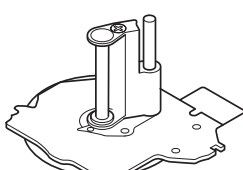
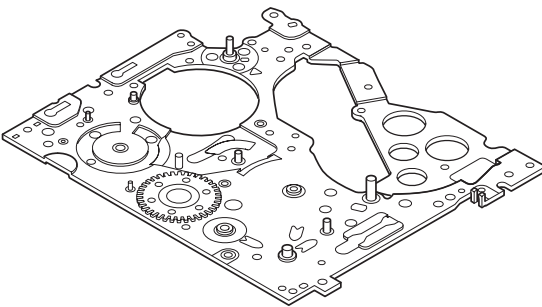
Fig.2-1-20	[15] TENSION CTL LEVER ASSY 	[16] CENTER GEAR 	[17] PINCH ROLLER ARM F ASSY 	[18] TENSION CTL PLATE ASSY 	[19] BRAKE CTL LEVER ASSY 
	[20] MOTOR BRACKET ASSY 	[21] GUIDE RAIL ASSY 	[22] SLIDE LEVER 2 ASSY 	[23] LOADING PLATE ASSY 	
Fig.2-1-21			[24] MODE GEAR 	[25] EJECT LEVER 	
Fig.2-1-22	[26] BASE R ASSY 	[27] ROTARY ENCODER 	[28] GEAR COVER ASSY 	[29] MAIN CAM ASSY 	
Fig.2-1-23	[30] SLIDE ARM ASSY 	[31] CONNECT GEAR 2 	[32] SUB CAM ASSY 	[33] CONTROL ARM ASSY 	[34] REEL GEAR 1 
Fig.2-1-24	[35] DRUM BASE ASSY 	[36] CAPSTAN MOTOR 	[37] MAIN DECK ASSY 		

Fig.2-1-30

2.1.9 SERVICE NOTE
 Use the following chart to manage screws.

Symbol No.	[1]	[2]	[3]	[6]	[10]	[11]	[20]	[21]	[22]
Removing order of screw	1 2 3	4	5 6 7	8 9 10	11	12 13 14	15 16 17	18	19 20
Place to stick screw									
Reference drawing (Fig. No.2-1-**)	14		15	16	17	18	21		22
Screw tightening torque	I	II							
									III

Symbol No.	[27]	[28]	[32]	[35]	[36]
Removing order of screw	21 22 23 24 25	26	27 28 29	30	
Place to stick screw					
Reference drawing (Fig. No.2-1-**)	22	23	24		
Screw tightening torque	II		IV		V

<NOTE>

•Pay careful attention to tightening torque for each screw.

I : 0.069N・m(0.7kgf・cm)

II : 0.055N・m(0.56kgf・cm)

III : 0.0198N・m(0.2kgf・cm)

IV : 0.078N・m(0.8kgf・cm)

V : 0.039N・m(0.4kgf・cm)

Fig.2-1-31

2.1.10 REMARKS

2.1.10.1 Cleaning

- (1) For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

NOTE:

Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.

- (2) For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
- (3) After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.1.10.2 Applying oil and grease

- (1) Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
- (2) For parts and points to apply oil and grease, refer to the exploded view of the 3.1 DVC MECHANISM ASSEMBLY. Fig.2-1-32 specifies oil and grease to be used.
- (3) When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

specifies oil and grease to be used

Fig.2-1-32

2.2 VHS-C MECHANISM

2.2.1 Precautions

- (1) When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.216 N•m (2.2 kgf•cm). Torque setting value of torque driver is limited. At the values over the maximum torque setting value, fasten a screw manually not to damage the screw thread.
- (2) Be sure to disconnect the set from the power supply before fastening and soldering parts.
- (3) When disconnecting/connecting wires, be careful not to get them and their connectors damaged.
- (4) When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

Example

STEP/LOC. No.	PART NAME		FIG.	REMOVAL	INSTALLATION
				POINT	ADJUSTMENT CONDITION NOTE
[1]	ROLLER BASE ASSEMBLY	T	M1	(S1)	—
[2]	TENSION ARM ASSEMBLY	T	M1	(P1), (W1a)	—
[3]	REEL DISC (SUP)	T	M1	(W1a), (W1b)	—

↑
*1

↑
*2

↑
*3

↑
*4

↑
*5

↑
*6

2.2.2 How to read the disassembly and assembly

*1 Order of steps in Procedure

When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

*2 Part to Name be removed or installed.

*3 Location of part.

T = The Upper side
B = The Lower side

*4 Fig. No. showing Procedure or Part Location.

M = Mechanism

*5 Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

P = Spring

W = Washer

S = Screw

* = Unhook, unlock, release, unplug or unsolder.

Example

- Remove (W1)=Washer W1.
- Remove the solder at (SD1)=Point SD1.
- Disconnect A = Connector A.

*6 Adjustment information for installation.

(+) = Refer to Exploded Views for Lubrication information.

2.2.3 DISASSEMBLY/ASSEMBLY PROCEDURE TABLE

This procedure starts with the condition that the cabinet parts and deck parts. Also, all the following procedures for adjustment and parts replacement should be performed in STOP mode. When reassembling, perform the step(s) in the reverse order.

STEP/LOC. No.	PART NAME		FIG.	REMOVAL	INSTALLATION
				POINT	ADJUSTMENT CONDITION NOTE
[1]	ROLLER BASE ASSY	T	M1	(1)	—
[2]	TENSION ARM ASSY	T	M1	(P1), (W1a)	—
[3]	REEL DISC	T	M1	(W1a), (W1b)	—
[4]	SLANT ARM ASSY	T	M1	(W1a)	—
[5]	CANCEL LEVER ASSY	T	M2	(W2)	—
[6]	EJECT LEVER ASSY	T	M2	(W2)	—
[7]	CASSETTE GUIDE (LEFT)	T	M2	(2)	—
[8]	SUPPLY CLUTCH ASSY	T	M2	(W2)	—
[9]	WHEEL GEAR	T	M2	(W2)	See, Adjustment procedure for Section 2.2.5
[10]	ROTARY ENCODER	B	M3	4(S3a)	The function of this part varies according to the ASSY (VHS/SVHS) which this part is incorporated in. (Refer to fig. 2-2-6)
[11]	TIMING BELT	B	M3	—	—
[12]	CENTER PULLEY UNIT	T/B	M3	2(S3a)	—
[13]	CASSETTE GUIDE (R) ASSY	T	M3	(S3b), (P3)	(Only use SVHS model)
[14]	TAKE UP GEAR	T	M3	(W3a)	—
[15]	BRAKE SUB GEAR	T	M3	(W3a)	—
[16]	PINCH ROLLER ARM ASSY	T	M3	(W3b)	—
[17]	TAKE UP GUIDE ARM ASSY	T	M3	(W3a)	—
[18]	LINK ARM ASSY	T	M4	(W4)	—
[19]	LED GUIDE	T	M4	(S4a)	—
[20]	A/C HEAD UNIT	T	M4	2(S4b)	—
[21]	SLANT POLE BASE ASSY	T	M5	(S5a)	—
[22]	CAPSTAN MOTOR	T	M5	3(S5a)	—
[23]	MOTOR BASE	T	M5	2(S5b), (S5c)	—
[24]	BRUSH	B	M6	(S6a)	—
[25]	DRUM FINAL ASSY	T/B	M6	2(S6b), 2(S6c) *CATCHER	—
[26]	GUIDE RAIL	T	M6	7(S6d), 8(S6d)	(Refer to part list.)
[27]	POLE BASE (S)ASSY	T	M6	—	—
[28]	POLE BASE (T)ASSY	T	M6	—	—
[29]	COVER PLATE	T	M7	—	—
[30]	DRIVE LEVER ASSY	T	M7	—	—
[31]	MOTOR BRACKET ASSY	T	M7	3(S7)	—
[32]	CONTROL CAM	T	M8	(W8a)	See, Adjustment procedure for Section 2.2.5
[33]	LINK LEVER	T	M8	—	See, Adjustment procedure for Section 2.2.5
[34]	MIDDLE GEAR	T	M8	—	—
[35]	LOADING GEAR(T) ASSY	T	M8	(W8b)	See, Adjustment procedure for Section 2.2.5
[36]	LOADING GEAR(S) ASSY	T	M8	(W8b)	—
[37]	LOADING RING ASSY	T	M8	4(S8)	See, Adjustment procedure for Section 2.2.5

Fig.2-2-1

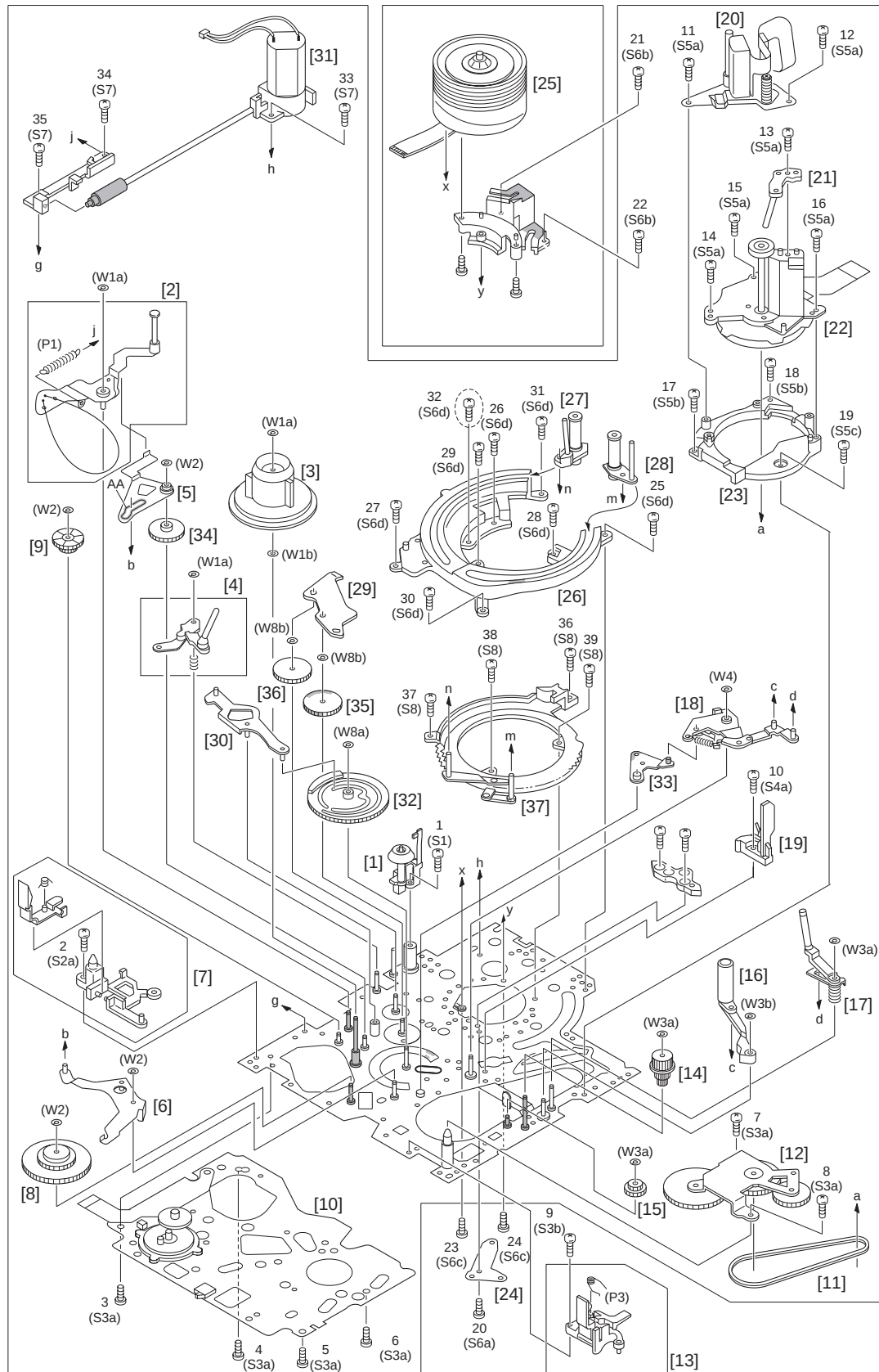


Fig.2-2-2

<TOP VIEW>

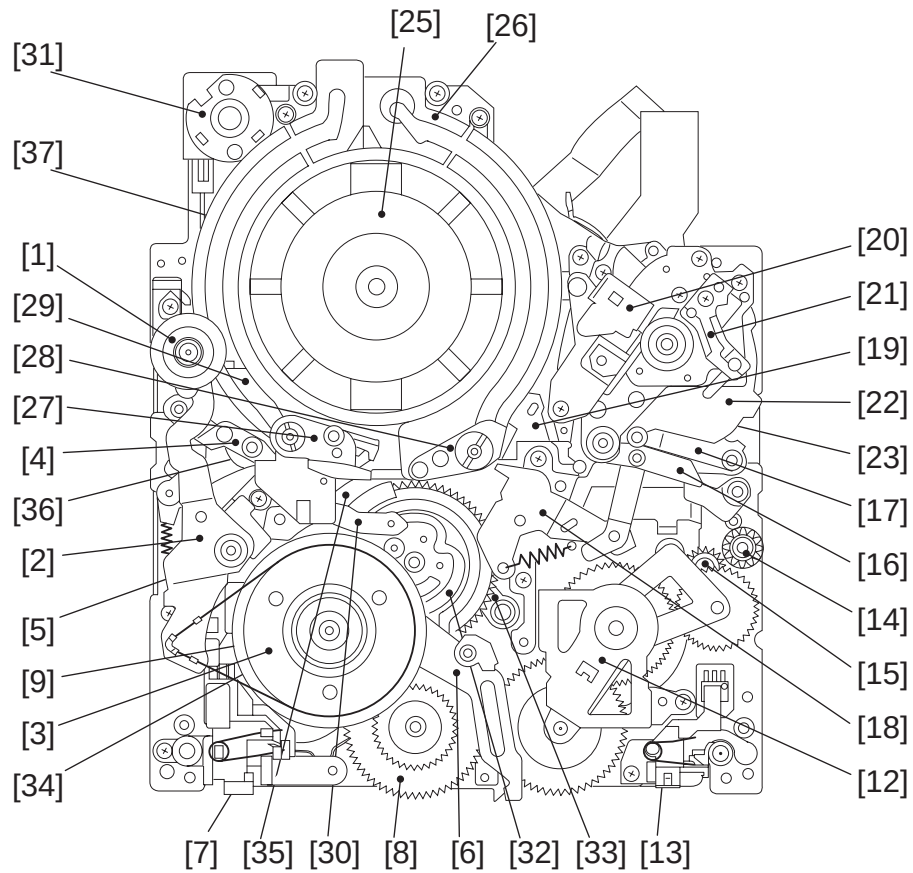


Fig.2-2-3

<BOTTOM VIEW>

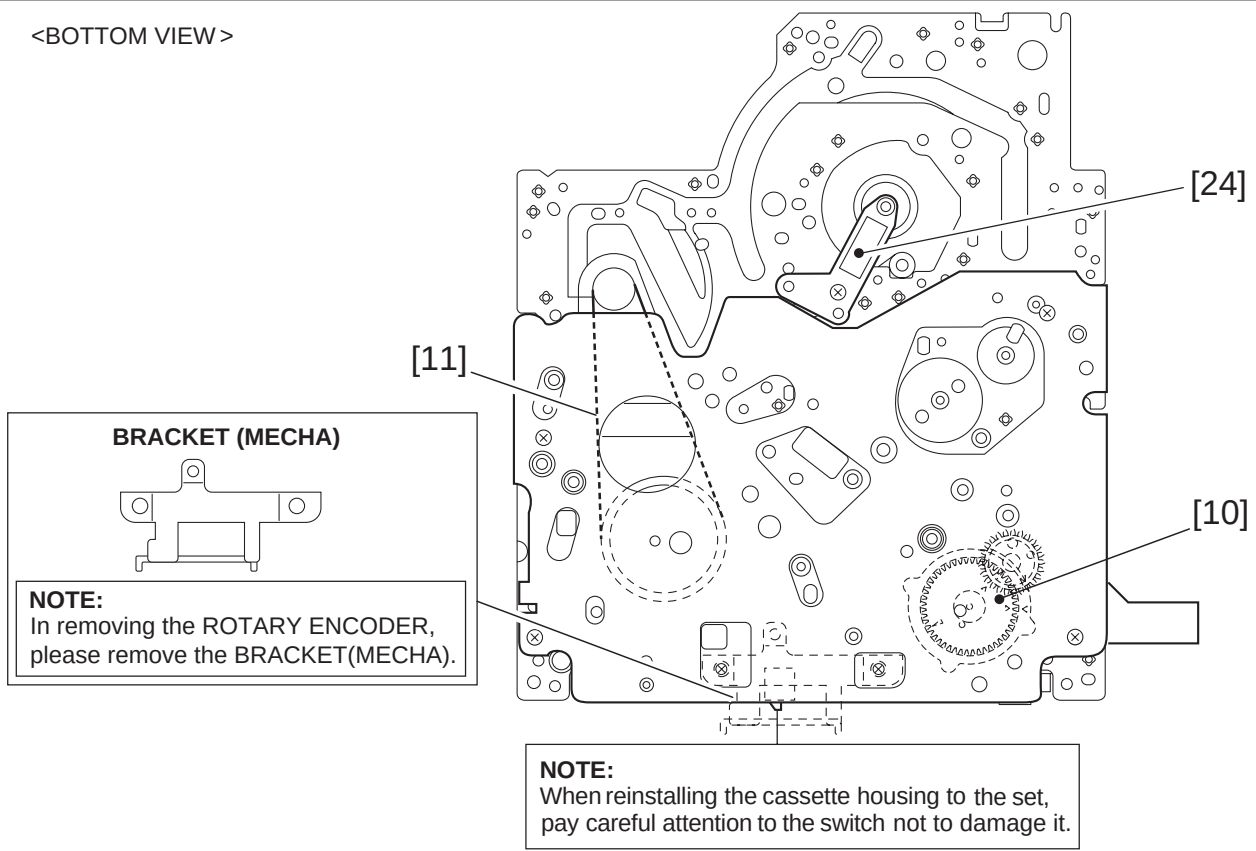


Fig.2-2-4

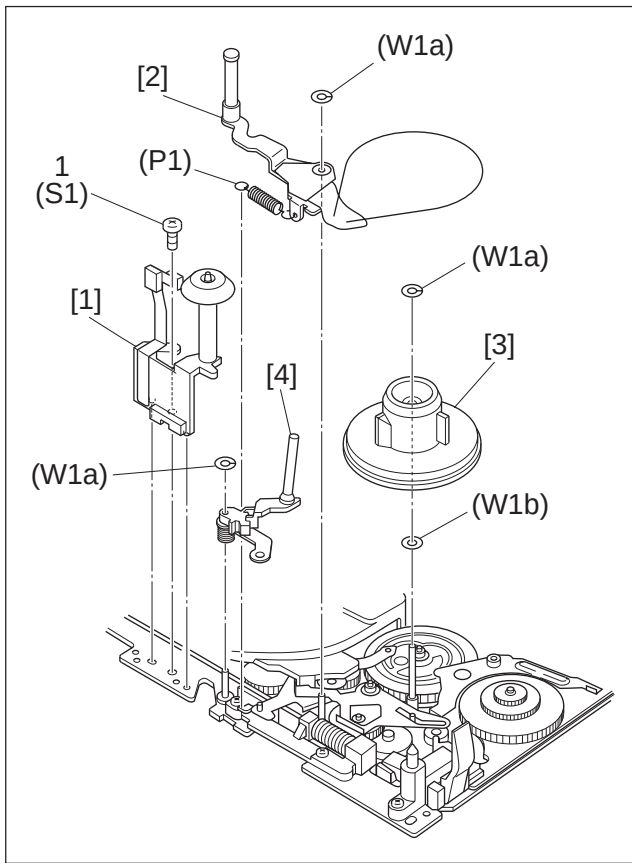


Fig.M1

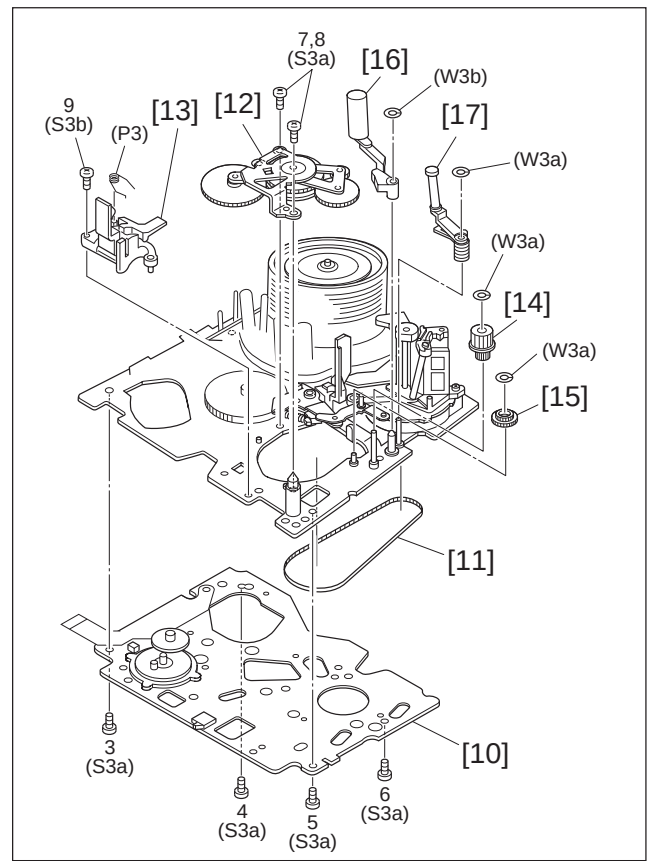


Fig.M3

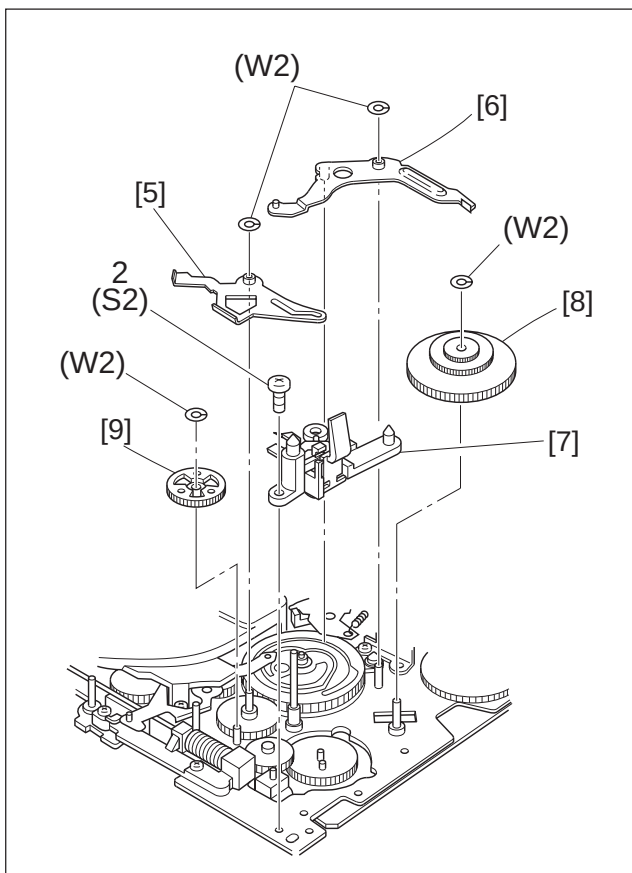
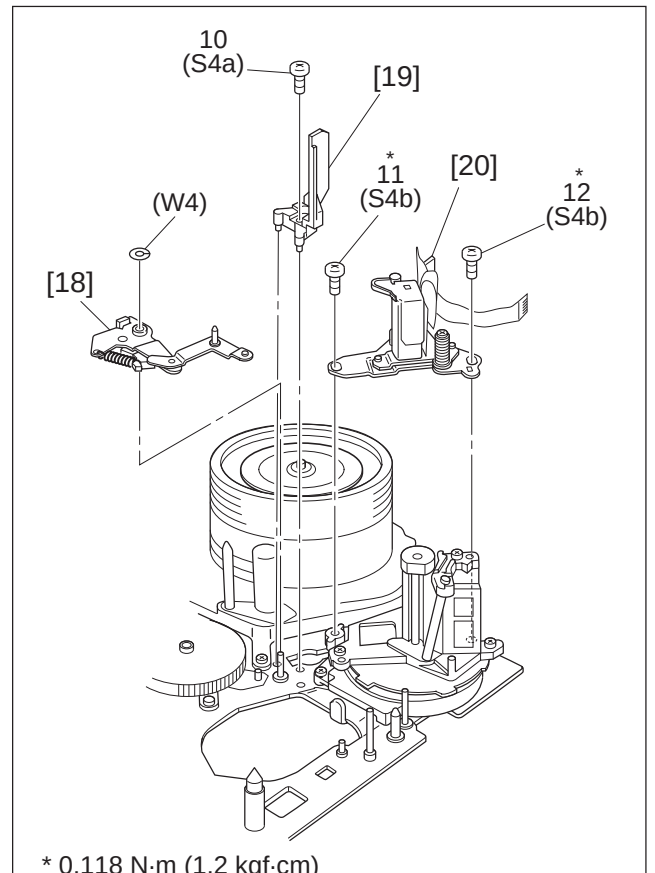


Fig.M2



* 0.118 N·m (1.2 kgf·cm)

Fig.M4

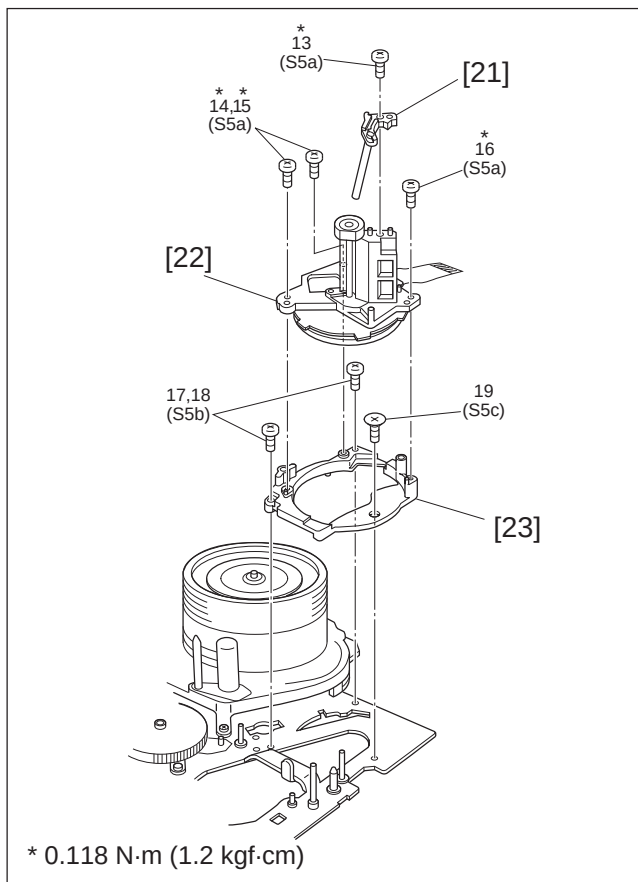


Fig.M5

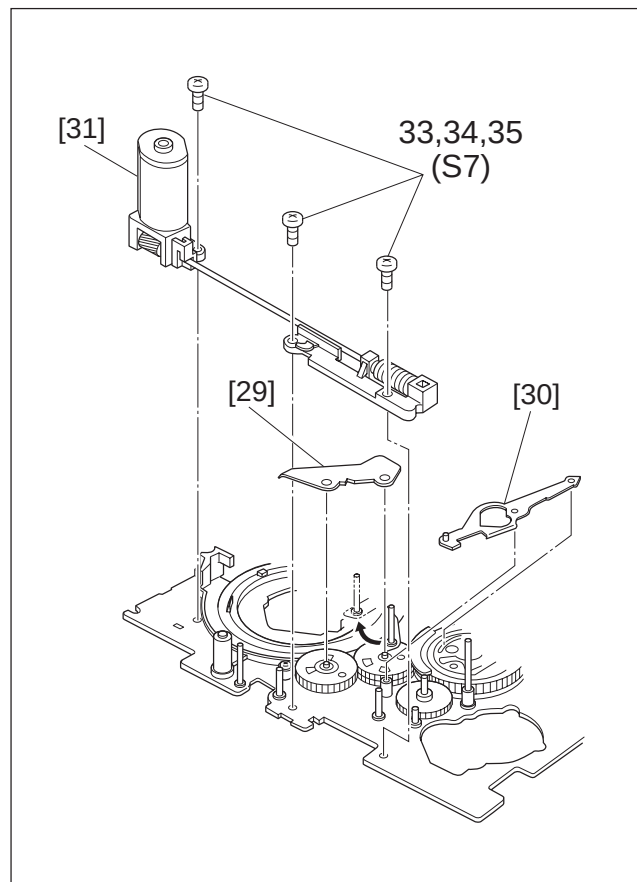


Fig.M7

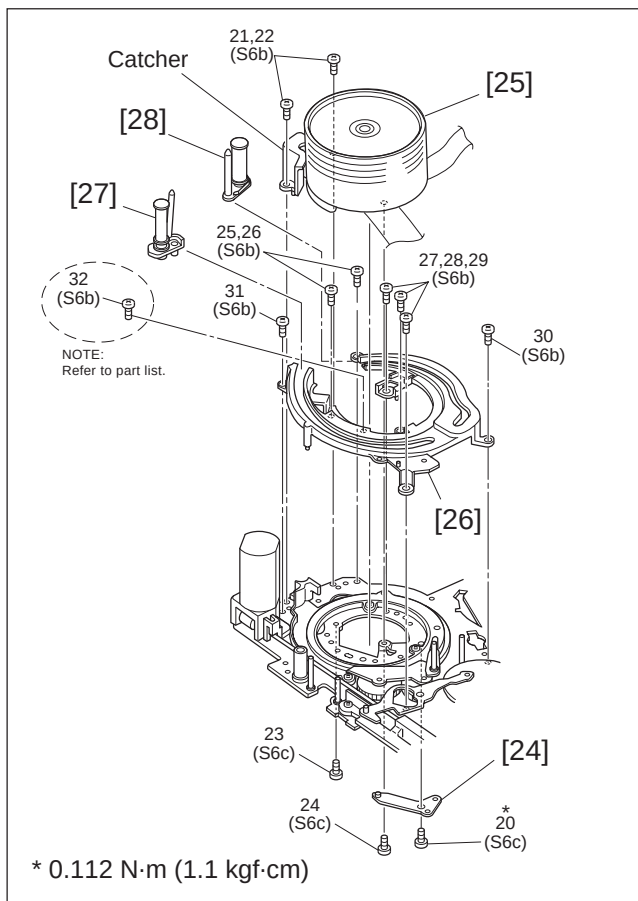


Fig.M6

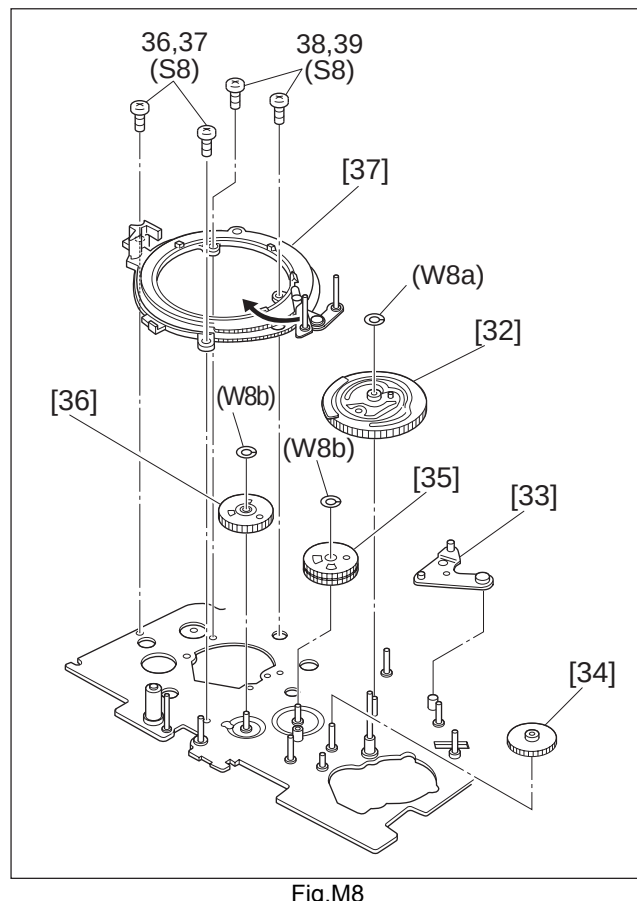


Fig.M8

2.2.4 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

NOTE:

Pay careful attention to the installing order and phase of mechanism parts of the loading system.

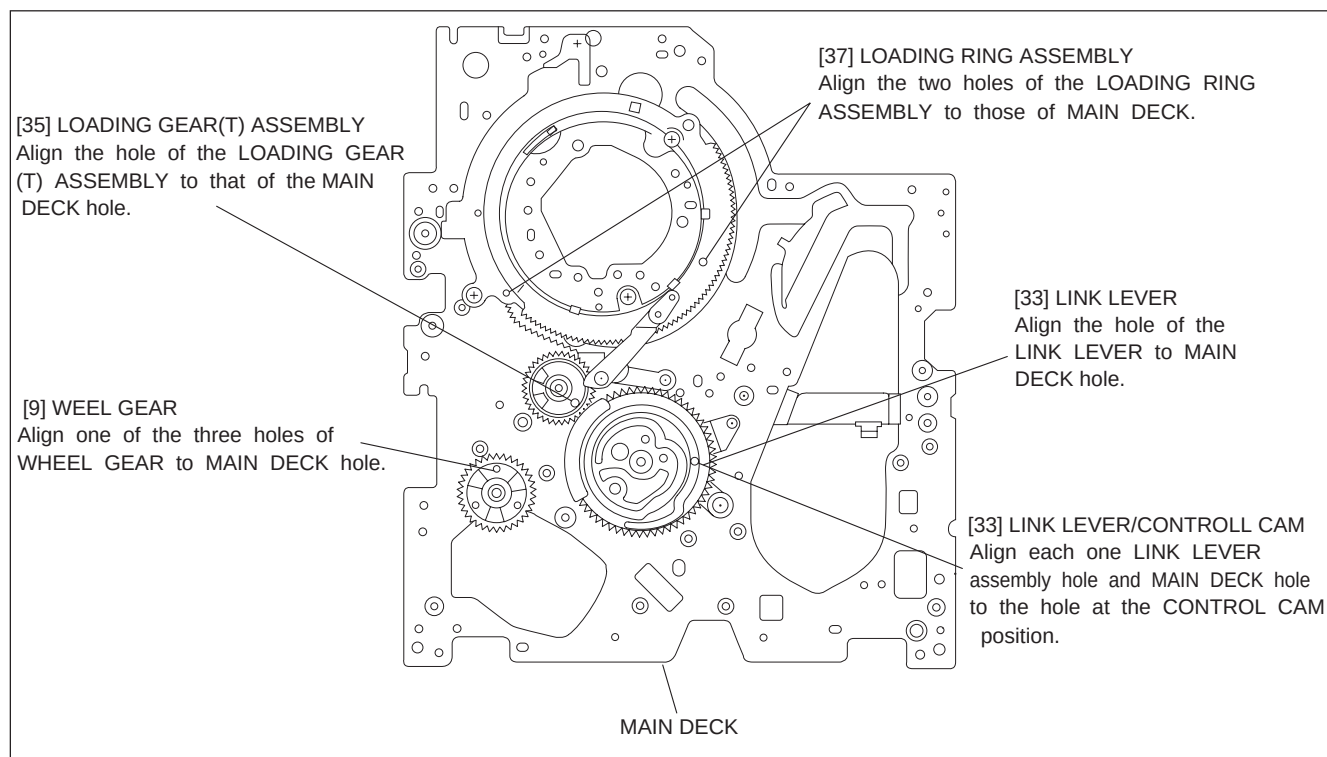


Fig.2-2-5 Top of main deck

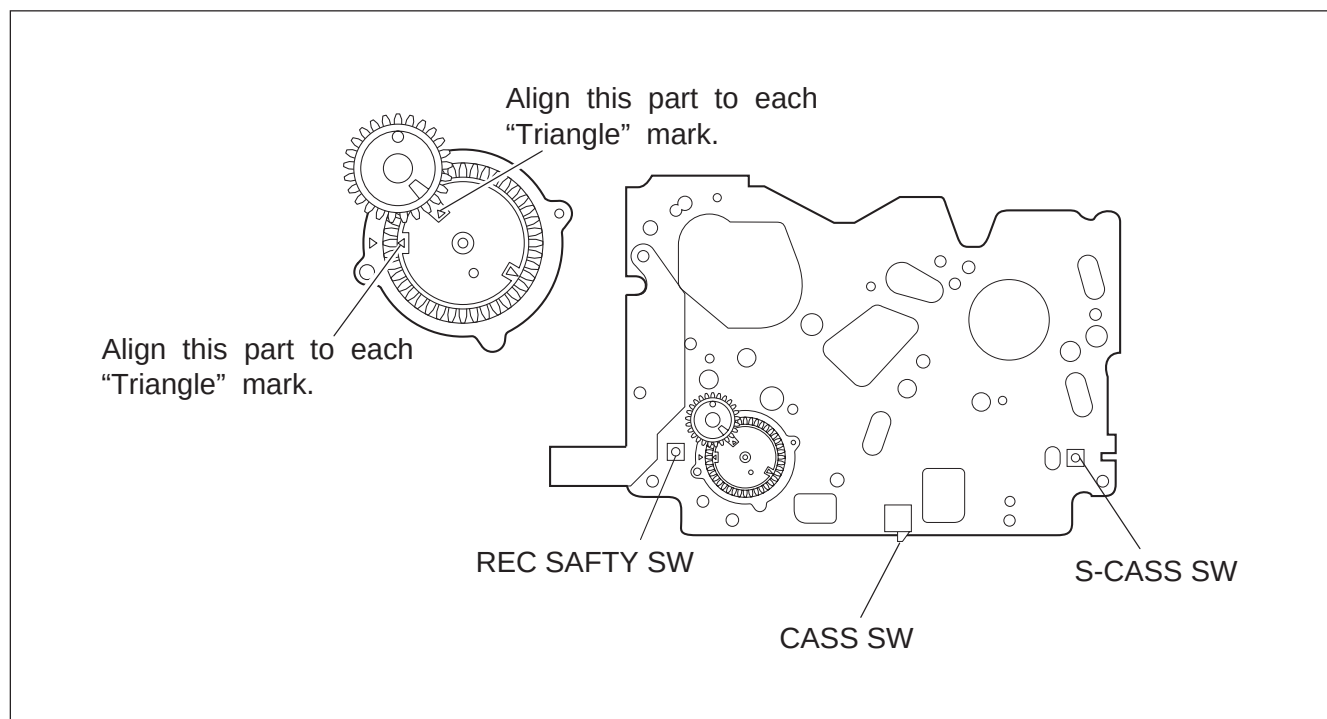


Fig.2-2-6 Rotary encoder

2.2.5 SERVICE NOTE

Use the following chart to manage screws.

Symbol No.	[1]	[7]	[10]				[12]	[13]	[19]	[20]	[21]	[22]	[23]								
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Place to stick screw																					
Reference drawing (Fig. No.)	M1	M2	M3								M4	M5									
Screw tightening torque	I										II										I

Symbol No.	[24]	[25]				[26]				[31]	[37]									
Removing order of screw	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Place to stick screw																				
Reference drawing (Fig. No.)						M6				M7	M8									
Screw tightening torque	III	I																		

Fig.2-2-7

<NOTE>

· Pay careful attention to tightening torque for each screw.
Torque setting value of torque driver is limited. At the values over the maximum torque setting value, fasten a screw manually not to damage the screw thread.

I : 0.216N・m(2.2kgf・cm) II : 0.118N・m(1.2kgf・cm) III : 0.112N・m(1.1kgf・cm)

2.2.6 REMARKS

2.2.6.1 Cleaning

- (1) For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

NOTE:

Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.

- (2) For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
- (3) After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.2.6.2 Applying oil and grease

- (1) Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
- (2) For parts and points to apply oil and grease, refer to the exploded view of the 3.2 VHS-C MECHANISM ASSEMBLY. Fig.2-2-8 specifies oil and grease to be used.
- (3) When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB

specifies oil and grease to be used

Fig.2-2-8

2.3 VHS MECHANISM

2.3.1 Notes

This model's mechanism relates closely to the rotary encoder and system control circuit (the rotary encoder is meshed with the control cam).

The system control circuit detects the mechanism condition using the rotary encoder's phase (internal switch phase). Therefore, the parts such as the rotary encoder, control plate, loading gear and control cam need to be installed correctly in order for the mechanism to operate properly. (For the mechanism phase adjustment, refer to the installation of each part.)

- Before using a soldering iron, be sure to disconnect the power plug from the AC outlet.
- Do not touch any of the adjustment points until a defect position is specified.
- When plugging or unplugging the connector, be sure not to damage the wire.
- Be sure the springs are hooked all the way around and in the correct direction.
- When performing repairs, take care not to damage a catch, etc.

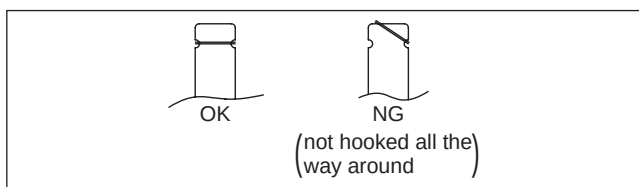


Fig.2-3-1

2.3.2 Mechanism operation check

When the mechanism is operated without a cassette loaded, operate the mechanism in the mechanism service mode.

2.3.3 Setting the mechanism assembling mode

The mechanism-assembling mode is provided with this mechanism. When disassembling and assembling, it is required to engage this mode.

Set the mode by adopting the following procedures.

- (1) Remove the mechanism assembly using the disassembling procedure.
- (2) Turn gear (a) of the loading motor manually to set the mechanism assembly to the eject end mode. Make sure that the main deck is connected to the guide hole (a) of the drive lever and the seal (a) of the main deck is connected to the mark "E" of the control plate. This condition is called the mechanism-assembling mode.

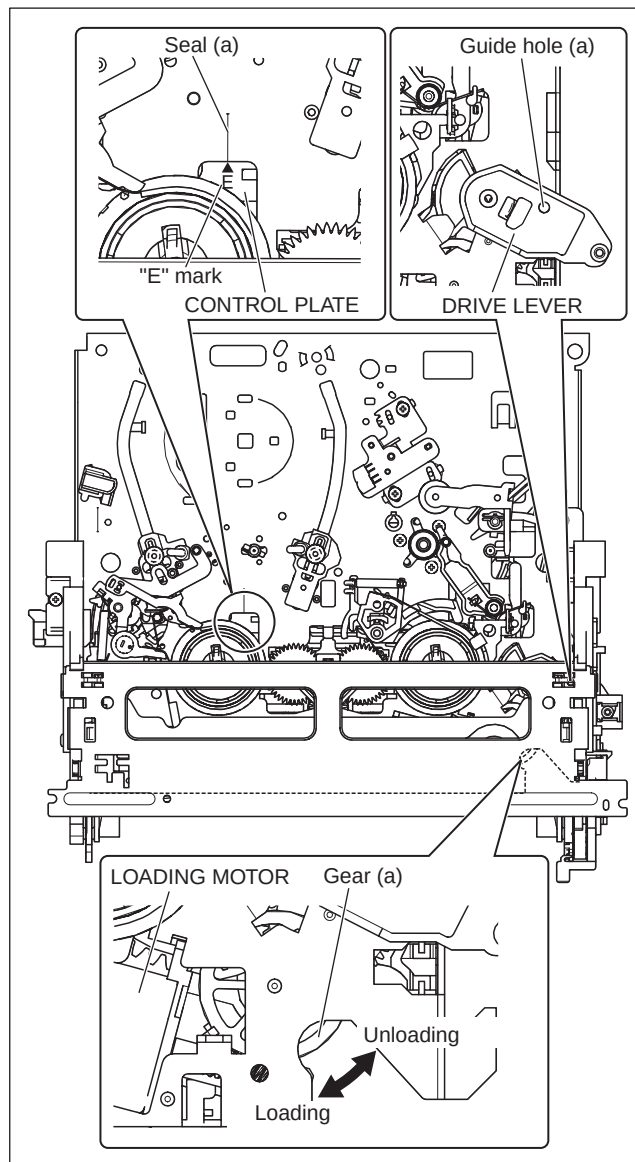


Fig.2-3-2

2.3.4 Layout of the main mechanism parts

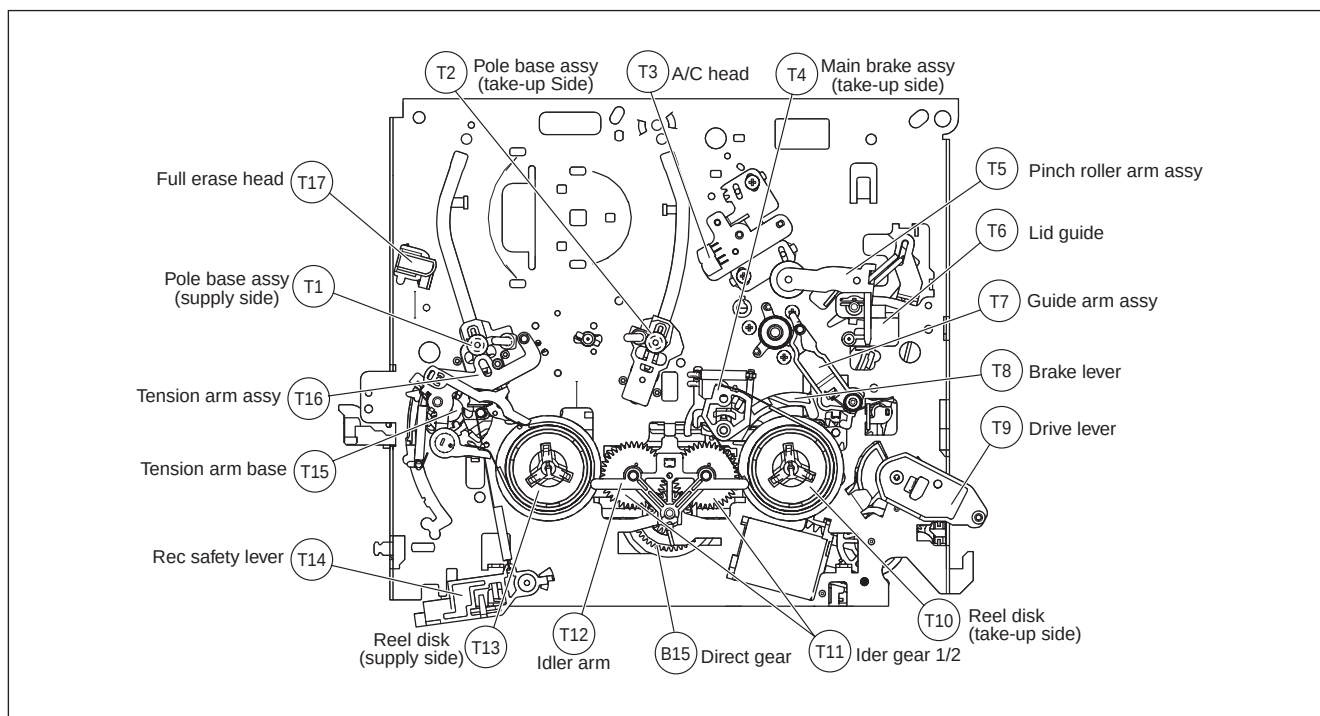


Fig.2-3-3

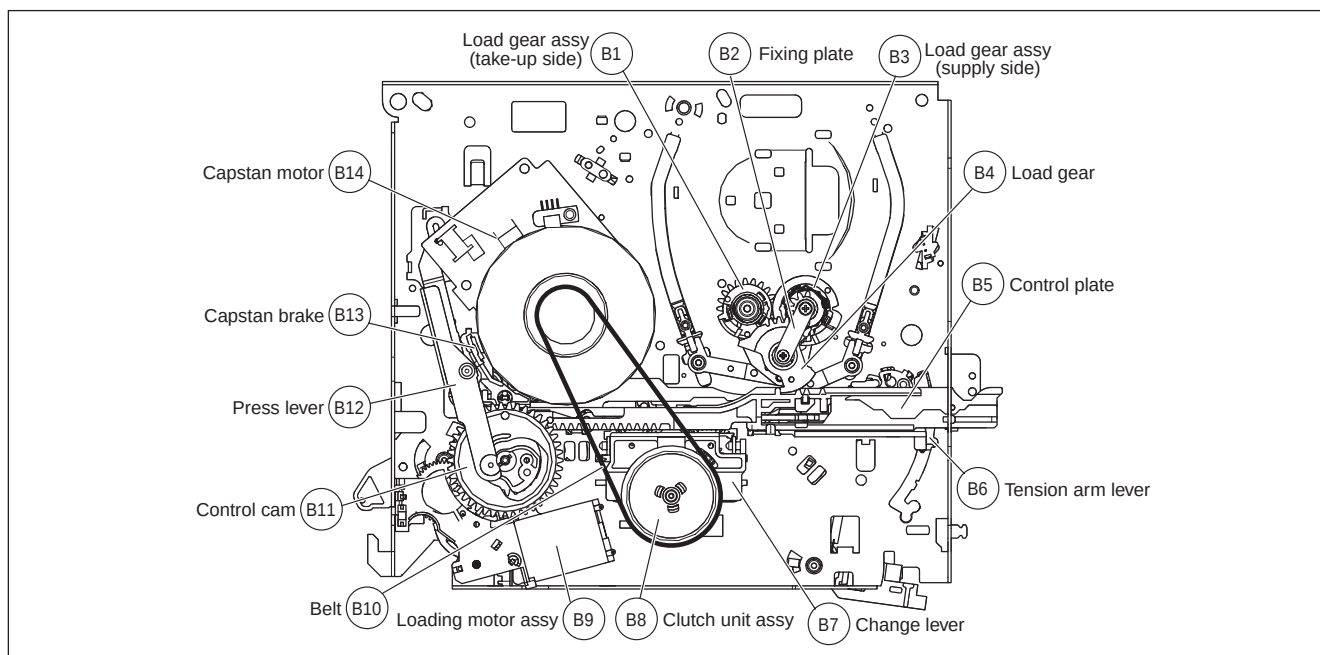


Fig.2-3-4

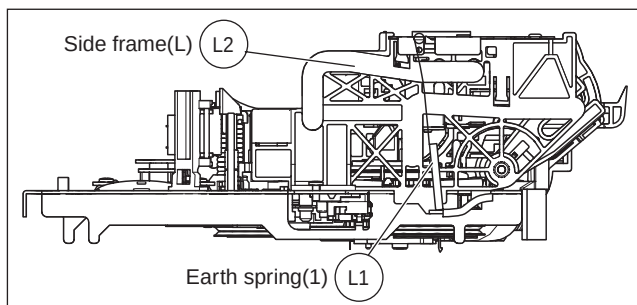


Fig.2-3-5

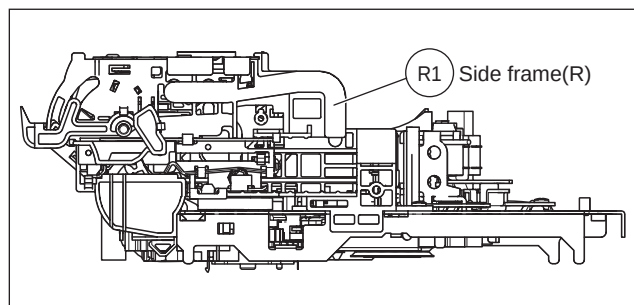


Fig.2-3-6

2.3.5 Disassembling procedure table

This table shows the order of parts removal when replacing each part. For replacement, remove the parts in the order of 1 to 13 shown in the table and install the parts in the reverse order.

The symbol number before each part name shows the number in the figure "Layout of the main mechanism parts". T and B on the right of each part name show the side from which the part should be removed (T: From the front of the mechanism, B: From the rear of the mechanism, T/B: From both sides).

Symbols and numbers				L1	-	-	L2	-	R1	T6	T12	T11	T4	T10	T16	T15	B12	B11	B13	B9	B10	B2	B4	B3	B1	B5	B8	B15
Symbols and numbers	Removal parts	Front(T)/Back(B) of mechanism	Number of removal steps	Earth spring (L)	Top frame	Cassette holder	Side frame (L)	Drive arm	Side frame (R)	Lid guide	Idler arm	Idler gear 1/2	Main brake (T)	Reel disk (T)	Tension arm	Tension arm base	Press lever	Control cam	Capstan brake assy	Loading motor assy	Belt	Fixing plate	Load gear	Loading gear assy (S)	Loading gear assy (T)	Control plate	Clutch unit	Direct gear
	(Reference items) Replacement parts																											
L1	2.1 Earth spring (1)	T	1																									
-	2.1 Top frame	T	2	1																								
-	2.1 Cassette holder	T	3	1	2																							
L2	2.1 Side frame (L)	T	3	1	2																							
-	2.1 Drive arm	T	5	1	2	3	4																					
R1	2.1 Side frame (R)	T	3	1	2																							
T3	2.2 A/C head	T	1																									
T17	- FE head	T/B	1																									
T7	2.3 Guide arm assy	T	1																									
T6	2.3 Lid guide	T	1																									
T5	2.3 Pinch roller arm assy	T	2							1																		
T12	2.4 Idler arm	T	4	1	2	3																						
T11	2.4 Idler gear 1/2	T	5	1	2	3					4																	
T4	2.5 Main brake assy (T)	T	6	1	2	3					4	5																
T10	2.5 Reel disk (T)	T	7	1	2	3					4	5	6															
T16	2.5 Tension arm	T	6	1	2	3					4	5																
T13	2.5 Reel disk (S)	T	7	1	2	3					4	5			6													
T15	2.5 Tension arm base	T	7	1	2	3					4	5			6													
-	- T-up head	T	8	1	2	3					4	5			6	7												
-	- T-up lever	T	8	1	2	3					4	5			6	7												
T8	2.5 Brake lever	T	8	1	2	3					4	5	6	7														
T14	2.5 Rec safety lever	T	7	1	2	3	4	5	6																			
B12	2.6 Press lever	B	1																									
B11	2.6 Control cam	B	2														1											
B13	2.6 Capstan brake assy	B	3														1	2										
B9	2.6 Loading motor assy	B	4														1	2	3									
B10	2.7 Belt	B	1																									
B14	2.7 Capstan motor	T/B	2																		1							
-	- Wire holder	T/B	1																									
B2	2.7 Fixing plate	B	1																									
B4	2.7 Load gear	B	2																			1						
B3	2.7 Loading gear assy(S)	B	3																			1	2					
B1	2.7 Loading gear assy(T)	B	4																			1	2	3				
T1	- Pole base assy(S)	T/B	4																			1	2	3				
T2	- Pole base assy(T)	T/B	5																			1	2	3	4			
-	- Load gear base	B	5																			1	2	3	4			
B5	2.7 Control plate	B	6														1	2			3	4	5					
T9	- Drive lever	T/B	10	1	2	3	4	5	6								7	8		9								
B8	2.8 Clutch unit	B	2																		1							
B15	2.8 Direct gear	B	3																		1							2
B7	- Change lever	T/B	6								1	2									3						4	5
B6	- Tension arm lever	T/B	14	1	2	3					4	5			6	7	8	9			10	11	12			13		

2.3.6 REPLACEMENT OF THE MAIN MECHANISM PARTS

2.3.6.1 Cassette holder

2.3.6.1.1 Removal

- (1) Remove the screws (a) and (b).
- (2) Hold up the top frame, cassette holder assembly, drive arm assembly and side frames (L/R) all together and remove them by releasing the hooks (a) and (b).

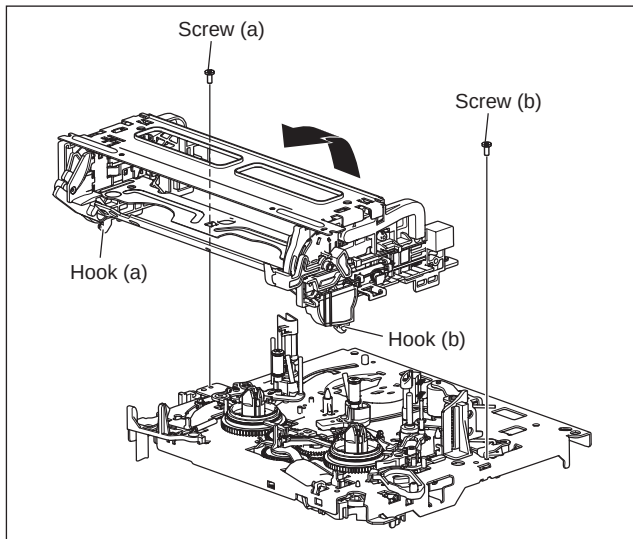


Fig.2-3-7

2.3.6.1.2 Installation (phase adjustment)

- (1) Turn gear (a) of the loading motor assembly so that the main deck connects to the guide hole (a) of the drive lever.
- (2) Hook the main deck to hooks (a) and (b).
- (3) Place the projection of the drive lever to section (a) of the side frame (R) and install the cassette holder to the main deck. Make sure that the bosses of the side frame (L/R) connect with the holes (a) and (b) of the main deck.
- (4) Secure screws (a) and (b).

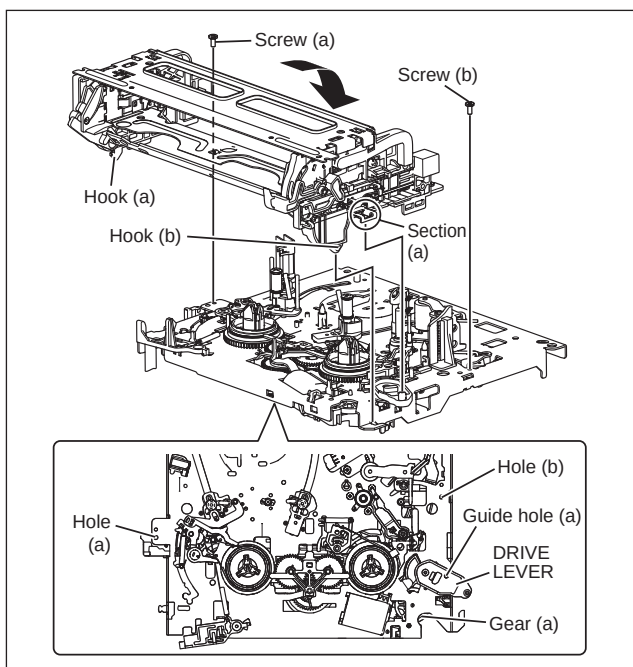


Fig.2-3-8

2.3.6.1.3 Disassembling

- (1) Release hook (a) to remove the earth spring (1) from the top frame.
- (2) Release the catches (a) and (b) and pull the top frame in the direction shown by the arrow (a) to remove it.
- (3) Pull out the side frame (R).
- (4) Pull out the cassette holder assembly and drive arm assembly from the side frame (L).

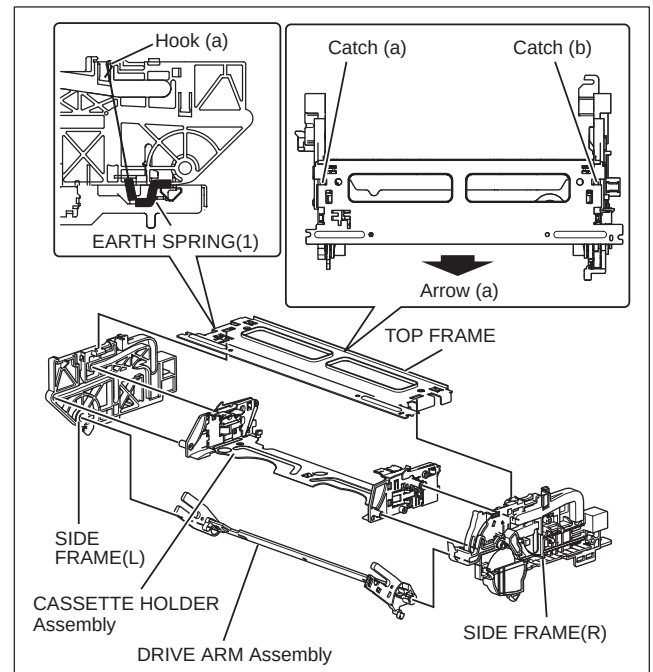


Fig.2-3-9

2.3.6.1.4 Assembling (installation and phase adjustment)

- (1) Turn gear (a) of the loading motor assembly so that the main deck connects to the guide hole (a) of the drive lever.
- (2) Place the projection of the drive lever on section (a) of the side frame (R) and install the side frame (R) to the main deck.
- (3) Secure screw (b).
- (4) Place section (b) of the drive arm on the gear of the side frame (R). Make sure that the pin of the door opener connects with section (c) of the drive arm.
- (5) Place the drive arm on section (d) of the side frame (L) and install the side frame (L) on the main deck. Be sure to connect the earth spring (1) to the side frame (L).
- (6) Secure screw (a).
- (7) Turn gear (a) of the loading motor assembly until the drive arm is vertical.
- (8) Place the slit of the side frame (L/R) at the foot of the cassette holder assembly and install the cassette holder.
- (9) Place the top frame on the position guide (a) of the side frame (L/R) and push it in the direction shown by the arrow (a) for installation.
- (10) Hook the earth spring (1) to the hook (a) of the top frame.

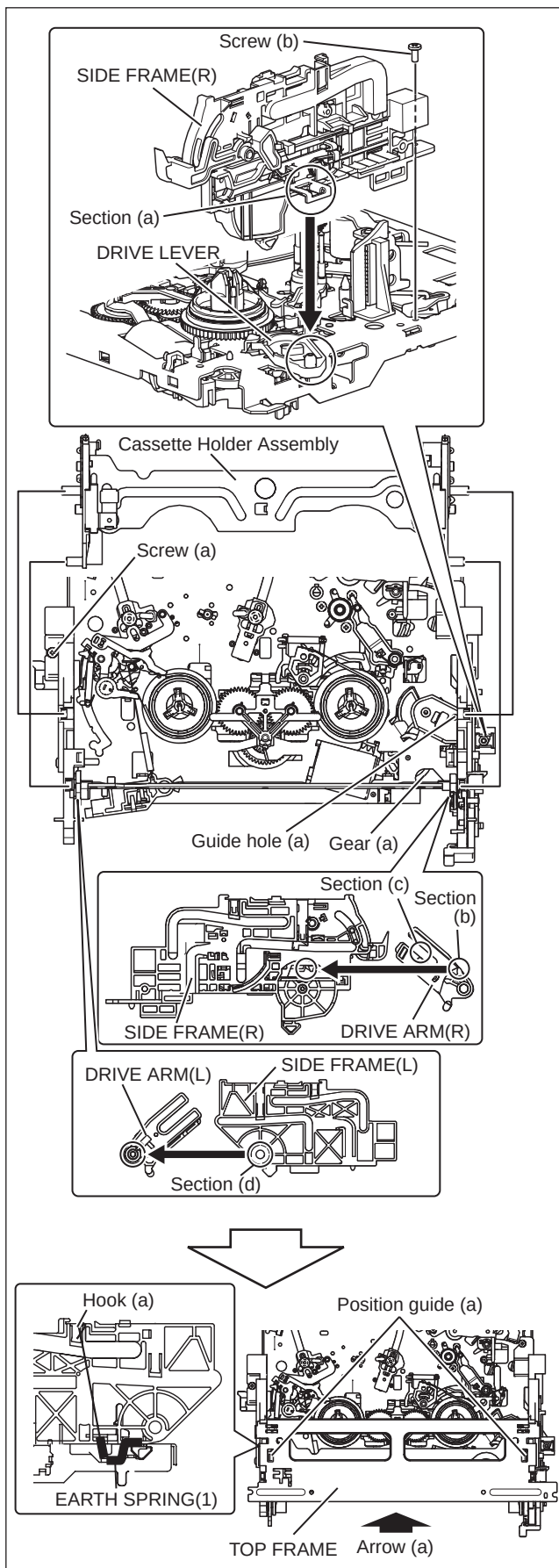


Fig.2-3-10

2.3.6.2 A/C head

2.3.6.2.1 Removal

- (1) Remove screws (a) and (b).
- (2) Remove the A/C head together with the head base.
- (3) Remove the screws (c), (d) and (e) to remove the spring (a) and the A/C head from the Head base.

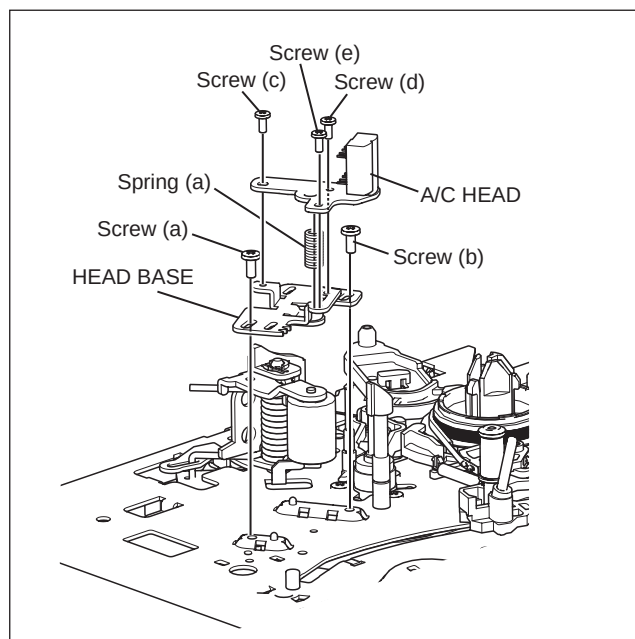


Fig.2-3-11

2.3.6.2.2 Installation (initial setting)

To install the A/C head to the head base, secure the screws in the order of (c), (d) and (e). To make the adjustment easy, temporarily elevate the A/C head.

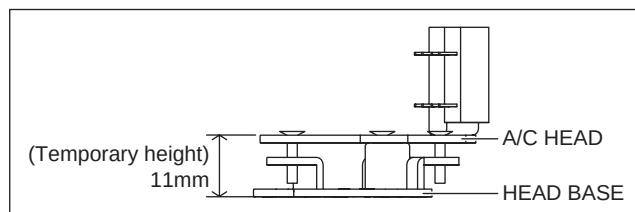


Fig.2-3-12

2.3.6.3 Guide arm, pinch roller arm

2.3.6.3.1 Removal

- (1) Remove the spring (a) from the hook (a) and detach the guide arm assembly.
- (2) Release the catch (a) to remove the lid guide.
- (3) Remove the spring (b) from the hook (b) and detach the pinch roller arm assembly.

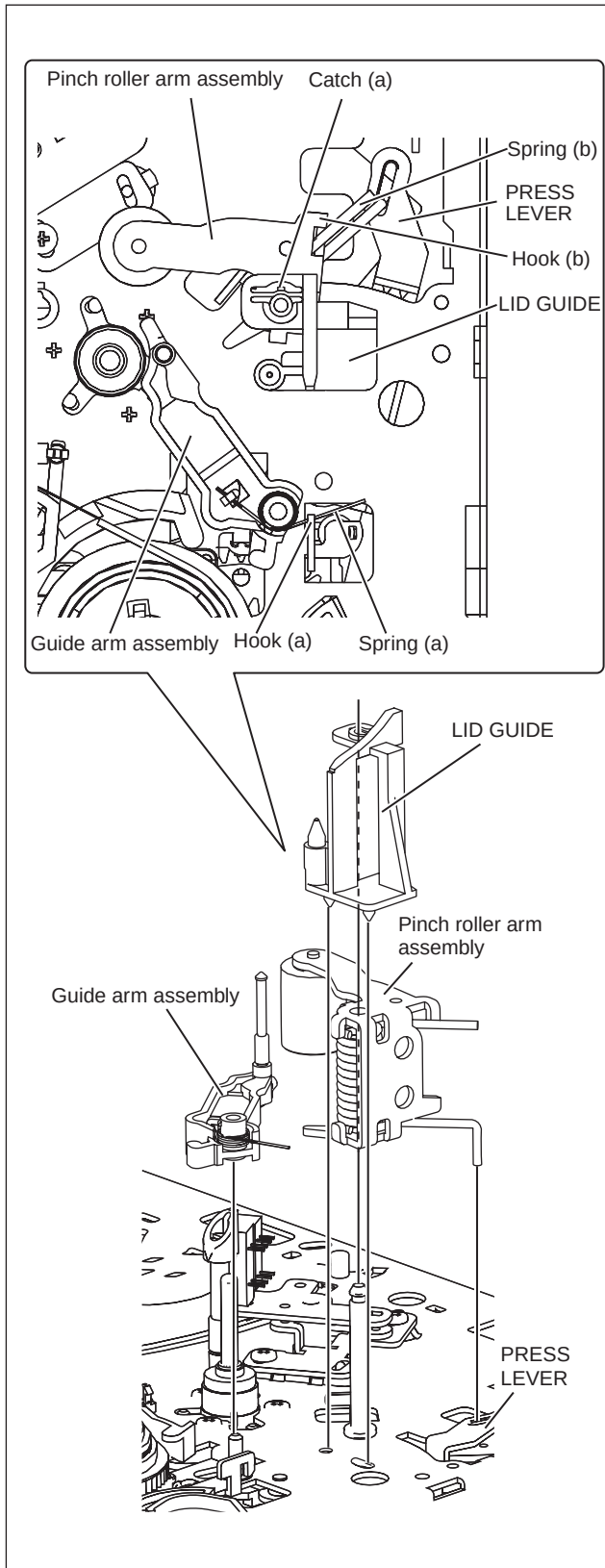


Fig.2-3-13

2.3.6.4 Idler arm, idler gear 1/2

2.3.6.4.1 Removal

- (1) Release the catches (a) and (b) to detach the idler arm.
- (2) Detach the idler gear 1/2.

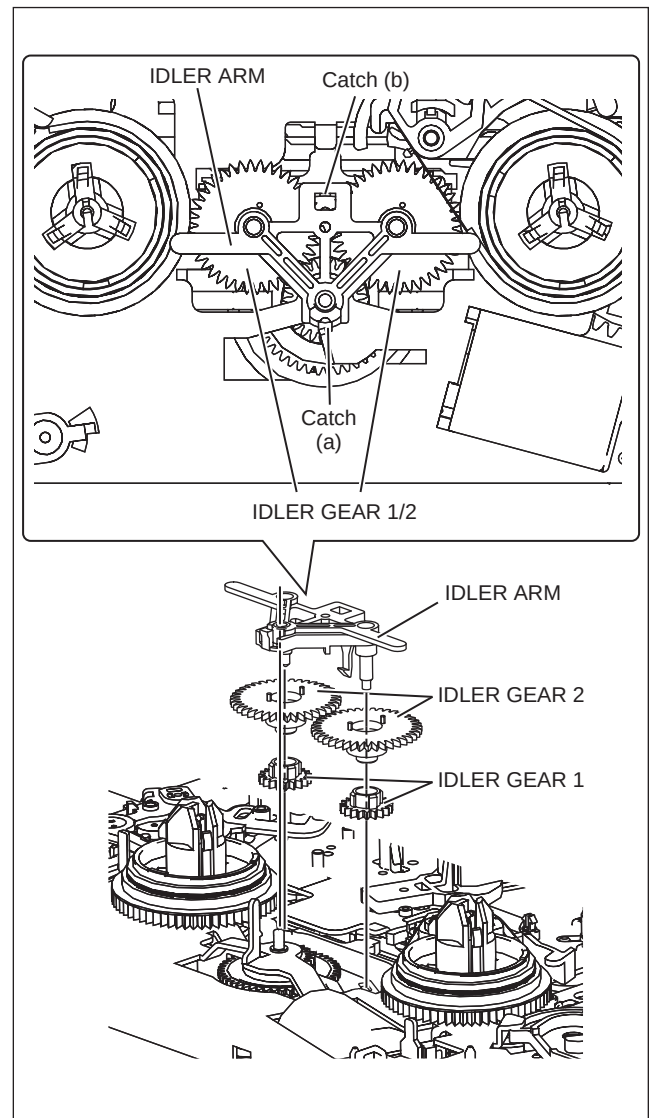


Fig.2-3-14

2.3.6.5 Main brake (T), brake lever, tension arm, reel disk (S/T), Rec safety lever

2.3.6.5.1 Removal

- (1) Remove the spring (a). (Detach section (b) of the spring (a).)
- (2) Release the catch (a) to detach the main brake (T).
- (3) Release the catch (b) to detach the reel disk (T) and the spacer.
- (4) Lift up and turn section (b) of the brake lever counterclockwise to remove the brake lever.
- (5) Remove the spring (b) from the hook (a).
- (6) Release the catch (c) to detach the tension arm.
- (7) Release the catch (d) to detach the reel disk (S) and the spacer.
- (8) Remove the spring (c) from the hook (b).
- (9) Turn the tension arm base in the direction shown by arrow (a) to release catch (e). Place the projections of the tension arm base to the holes (a) to detach the tension arm base.
- (10) While releasing the catch (f), turn the Rec safety lever counterclockwise to remove it.

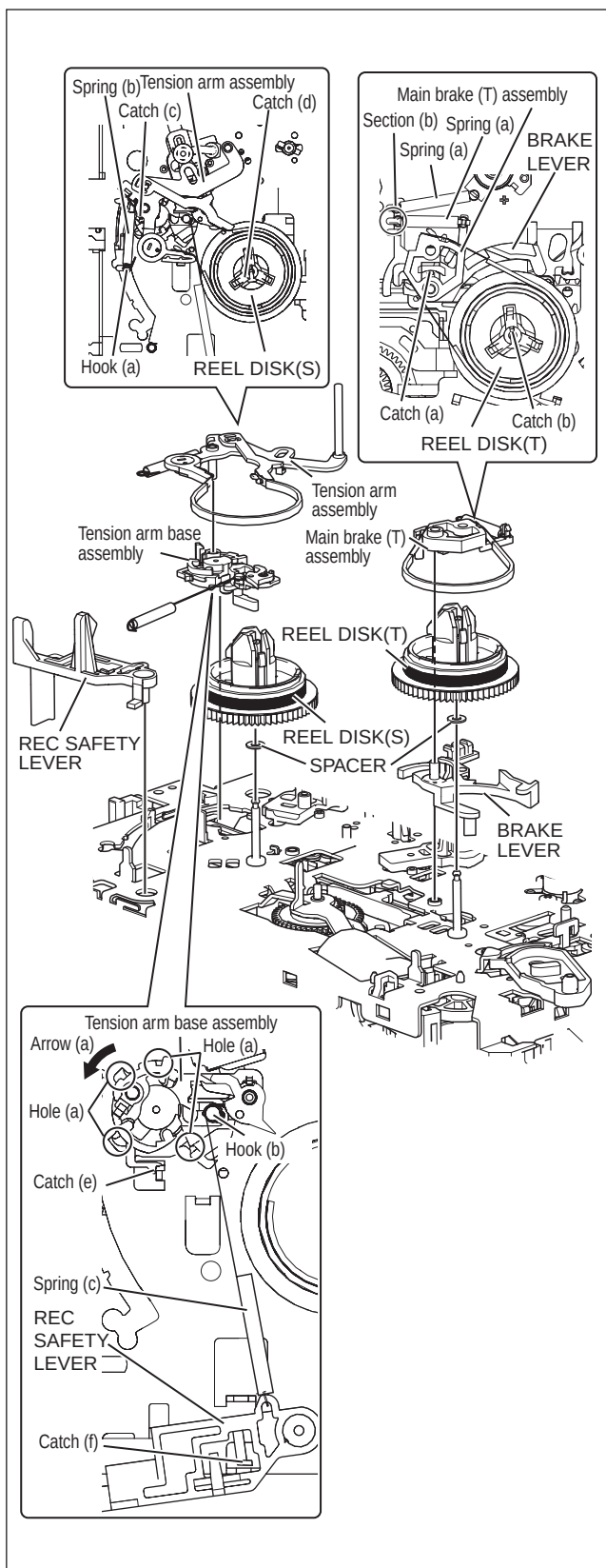


Fig.2-3-15

2.3.6.6 Press lever, control cam, capstan brake assembly, loading motor assembly

2.3.6.6.1 Removal

- (1) Remove the slit washer (a) to detach the press lever.
- (2) Release the slit washer (b) to detach the control cam.
- (3) Release the catch (b) to detach the capstan brake assembly.
- (4) Remove the solder (a).
- (5) Remove the screw (a).
- (6) Release the catches (c) and (d) to detach the loading motor assembly.

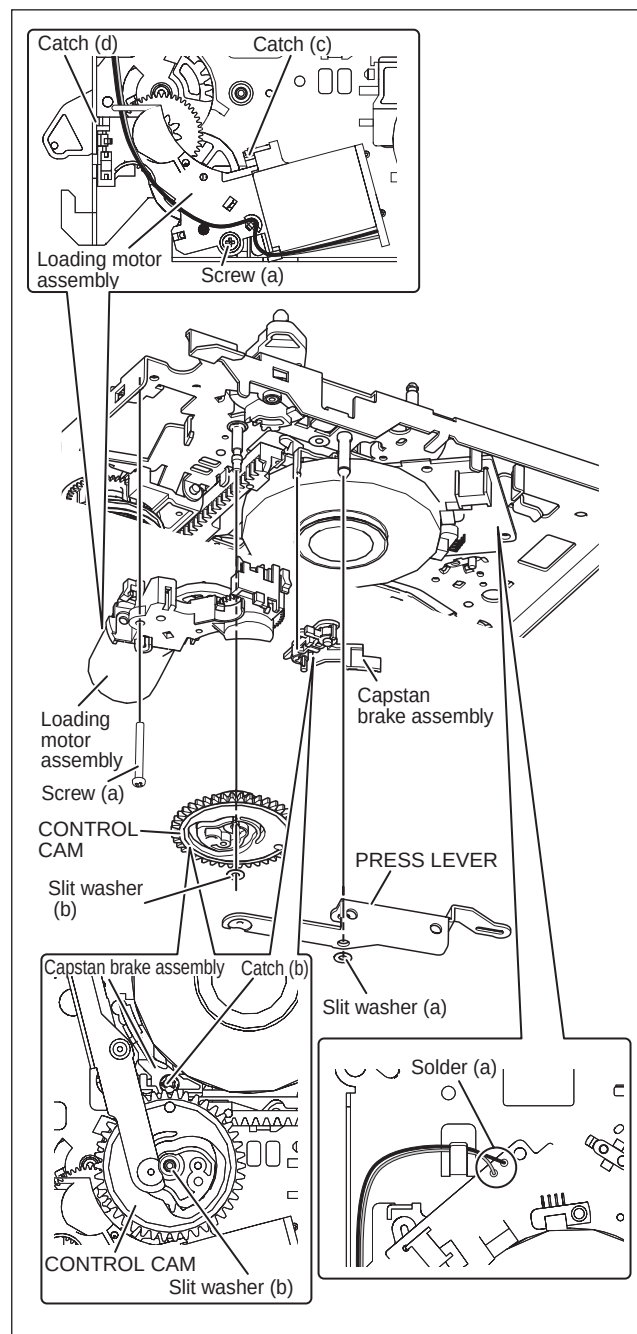


Fig.2-3-16

2.3.6.6.2 Installation (phase adjustment)

- (1) Attach the loading motor assembly to the main deck.
- (2) Secure the screw (a).
- (3) Solder the wire to section (a).
- (4) Arrange the wire along with the position guide (b).
- (5) Attach the capstan brake assembly to the main deck.
- (6) Place the main deck on the guide hole (a) of the control plate.
- (7) Place the main deck on the guide hole (b) of the drive lever.
- (8) Place the main deck on guide hole (c) of the control cam to install the control cam.
- (9) Move the capstan brake in the direction shown by the arrow (a) to attach the press lever to the shaft (a). Make sure that the boss of the press lever fits in the control cam, and that the shaft (b) of the pinch roller arm assembly connects with the hole of the press lever.
- (10) Attach slit washer (a) to shaft (a).

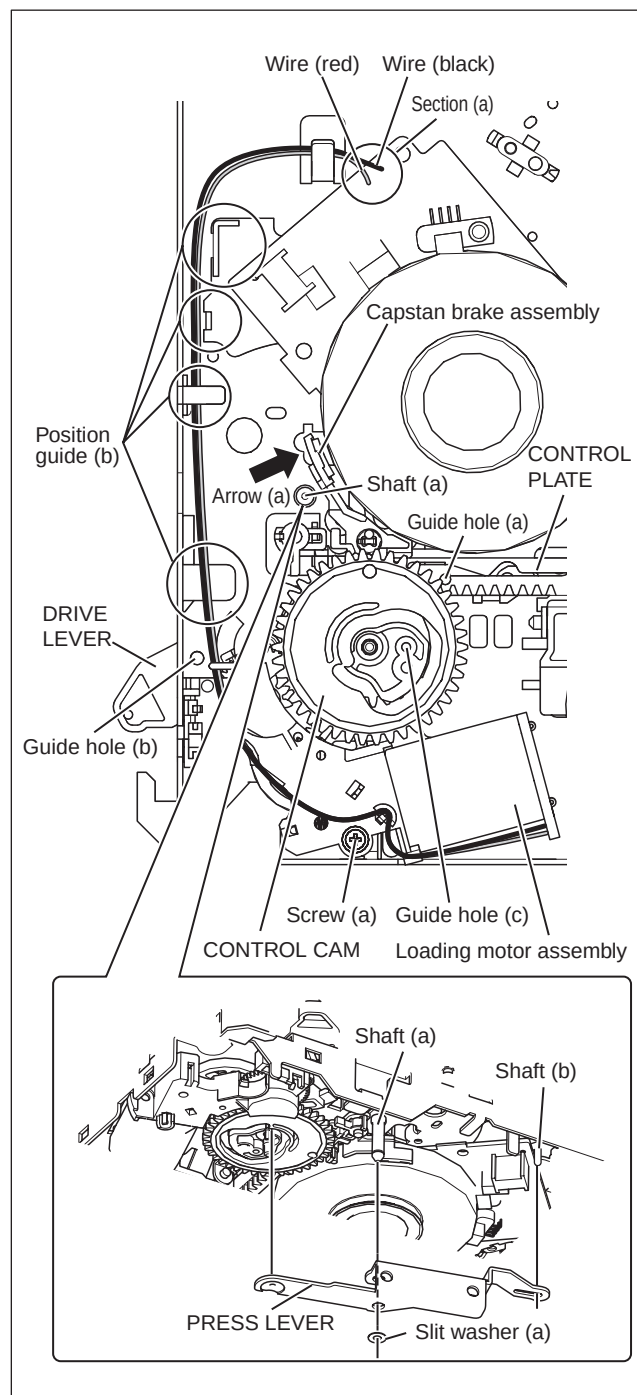


Fig.2-3-17

Note:

- When replacing the worm bearing of the loading motor assembly, attach it according to the following specification.

If worm bearing is not attached correctly, a mechanism noise may occur. (See Fig. 2-3-18)

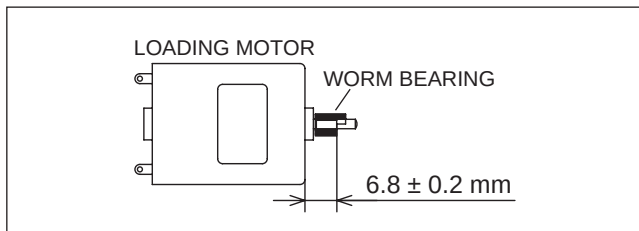


Fig.2-3-18

2.3.6.7 Capstan motor, load gear, control plate

2.3.6.7.1 Removal

- (1) Detach the belt.
- (2) Check that the FFC connector on the drum is disconnected.
- (3) Release the catch (a) to remove the FFC wire.
- (4) Remove the screws (a) to detach the capstan motor.
- (5) Remove the screws (b) to detach the fixing plate.
- (6) Release the catch (b) to detach the load gear.
- (7) Turn the load gear (S/T) in the loading direction to detach it.
- (8) Remove the control plate.

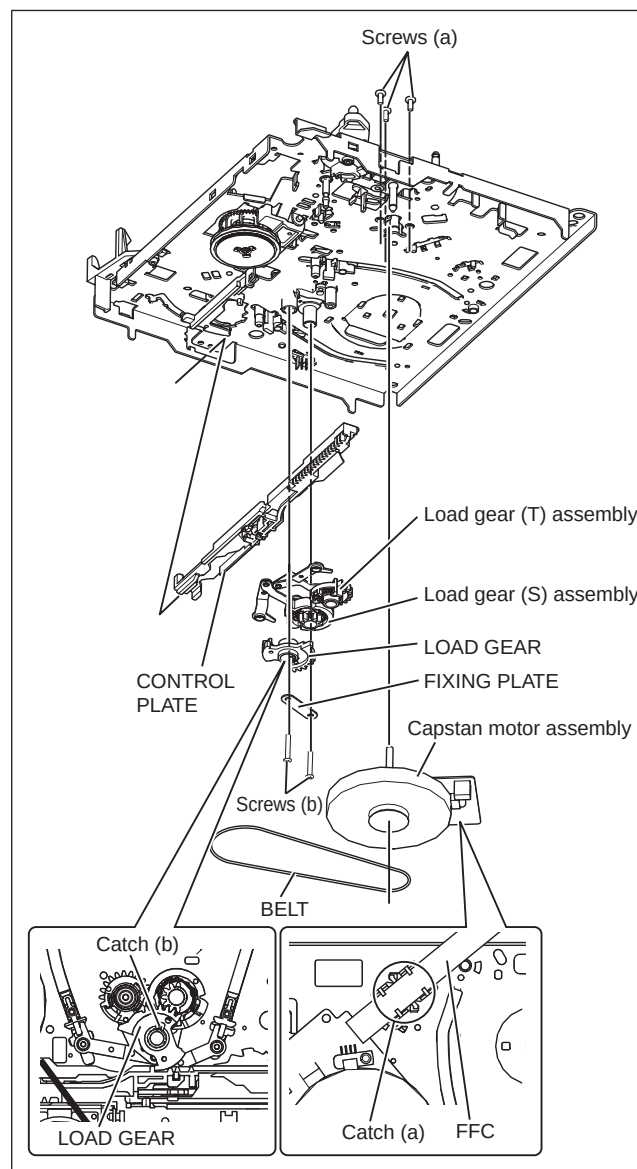


Fig.2-3-19

2.3.6.7.2 Installation (phase adjustment)

- (1) Place the main deck on the guide hole (a) of the tension arm lever.
- (2) Place the main deck on the guide hole (b) of the brake lever.
- (3) Attach the control plate to align with the position guide (a).
- (4) Place the hole (c) of the load arm (T) on the pole base (T) and the load gear (T) on the load gear base.
- (5) Place the hole (d) of the load arm (S) on the pole base (S) and the load gear (S) on the load gear base. Be sure to align the guide mark (e) of the load gear (T) to that of the load gear (S).
- (6) Turn the load gear (S/T) in the unloading direction to place the main deck on the guide hole (f) of the load gear (T).
- (7) Place the main deck on the guide hole (g) of the control plate.
- (8) Attach the load gear on the load gear base so that the control plate is placed on the edge (h) of the load gear.
- (9) Place the fixing plate on the shaft of the load gear base and secure the screws (b).

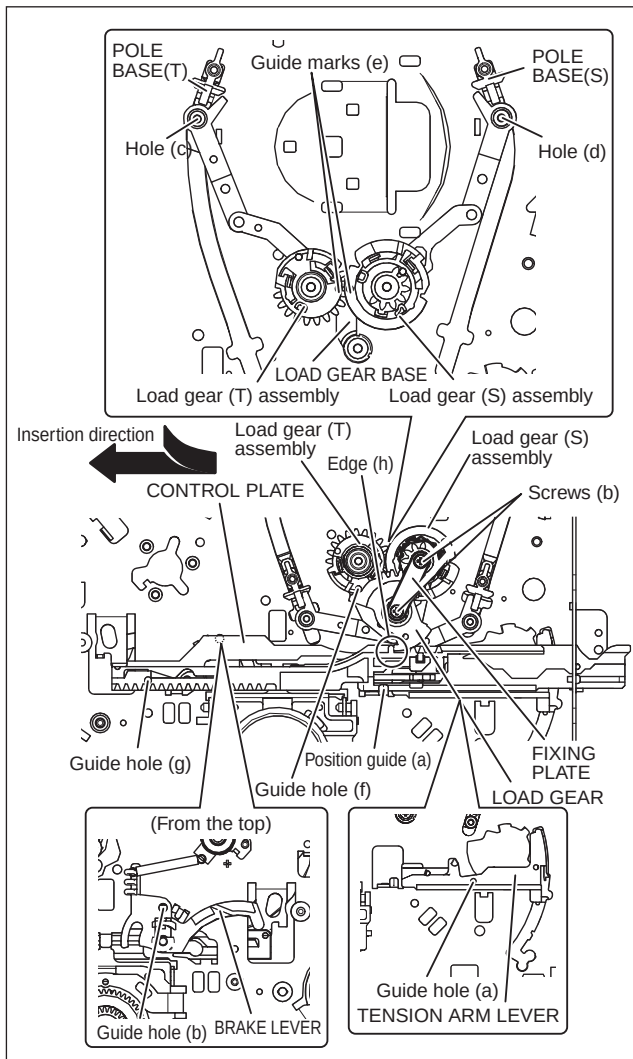


Fig.2-3-20

2.3.6.8 Clutch unit assembly, direct gear

2.3.6.8.1 Removal

- (1) Remove the slit washer (a) to detach the clutch unit assembly.
- (2) Remove the spring (a) and the direct gear.

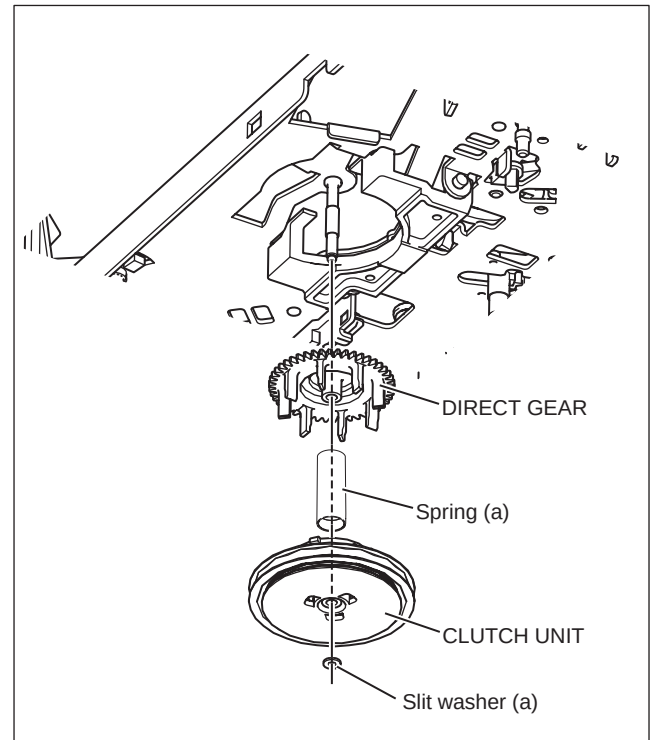
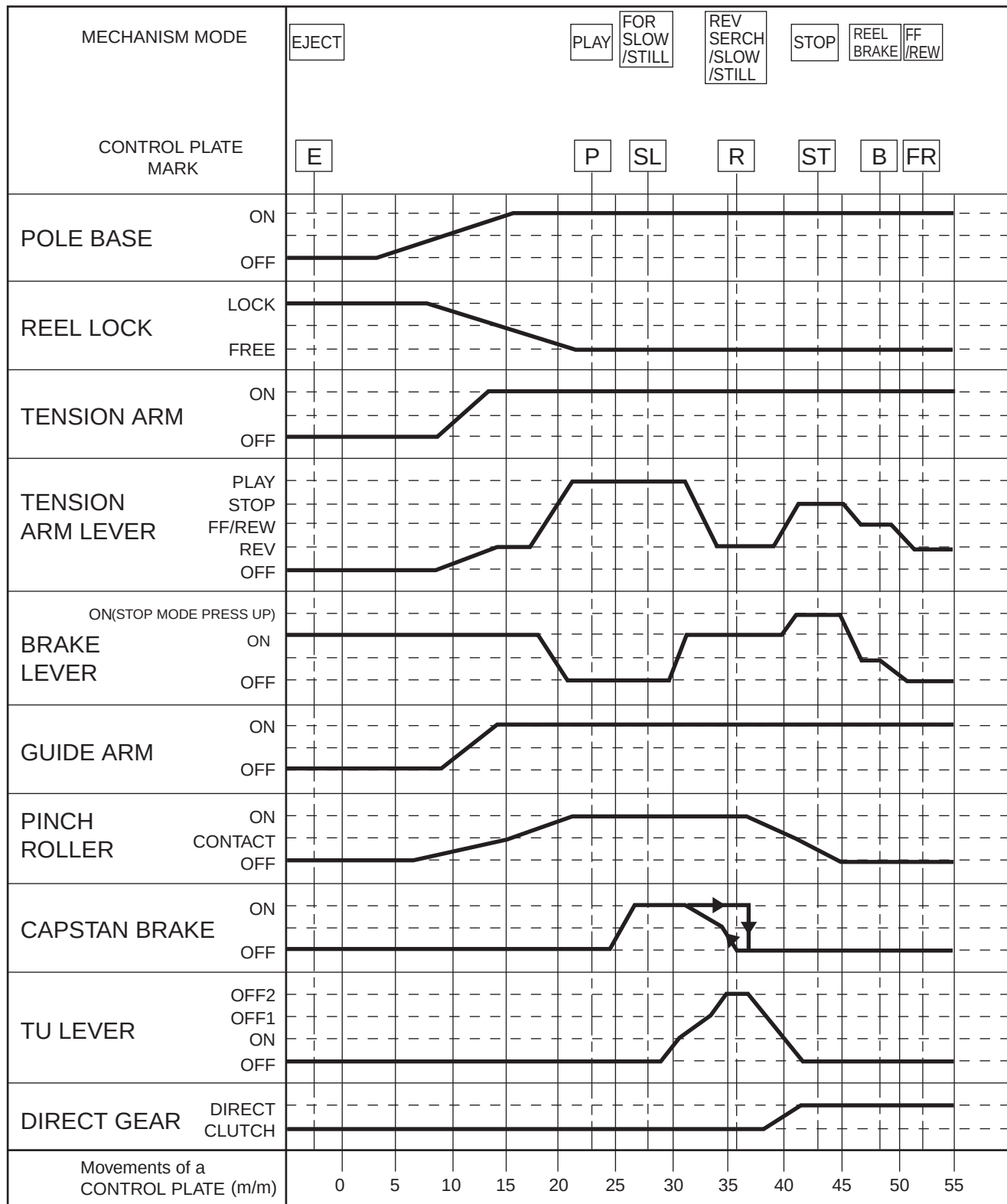


Fig.2-3-21

2-40 (No.86700)



2.3.8 REMARKS

2.3.8.1 Cleaning

- (1) For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

NOTE:

Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.

- (2) For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
- (3) After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.3.8.2 Applying oil and grease

- (1) Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
- (2) For parts and points to apply oil and grease, refer to the exploded view of the 3.3 VHS MECHANISM ASSEMBLY. Fig.2-3-22 specifies oil and grease to be used.
- (3) When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	COSMO-HV56	BB

specifies oil and grease to be used

Fig.2-3-22



VICTOR COMPANY OF JAPAN, LIMITED

AV & MULTIMEDIA COMPANY CAMCORDER CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.86700)



Printed in Japan
200304WPC

SECTION 3

PARTS LIST

3.1 DVC MECHANISM ASSEMBLY

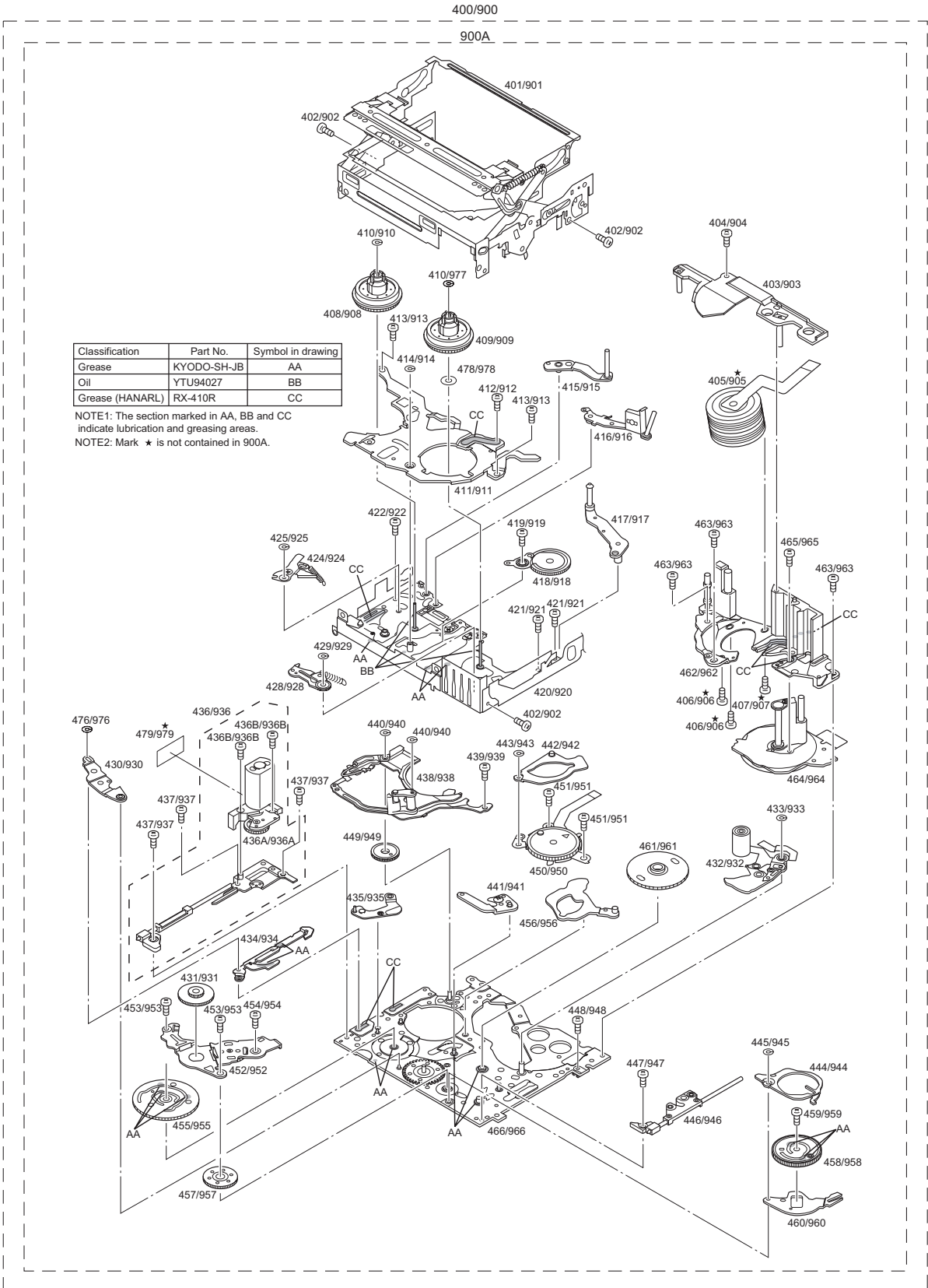


Fig.3-1-1

3.1.1 DVC MECHANISM ASSEMBLY PART LIST

- Since parts numbers described here are the numbers at the time of manual issue, they are subject to change without notice. Therefore, be sure to see a parts list in the service manual of each model as for parts numbers.
- To distinguish the mechanism assembly with the symbol number of 400-499 from the mechanism assembly with the symbol number of 900-999, see the following procedures.

(1) See the numbers on the backside of the MAIN DECK ASSY.

For example, "29D*****" is printed on the backside of the mechanism assembly with the symbol number of 900-999 (YMA0029D in this example). See the first three characters and numbers from the left.

(2) See the color of the SLIT WASHER on the REEL DISK (TU).

A red slit washer is used (the same color as a slit washer of CASSETTE GUIDE (SUP)) in the mechanism assembly with the symbol number of 400-499. A black slit washer is used in the mechanism assembly with the symbol number of 900-999.

However, the black slit washer may be changed into a red one for the purpose of parts unification.

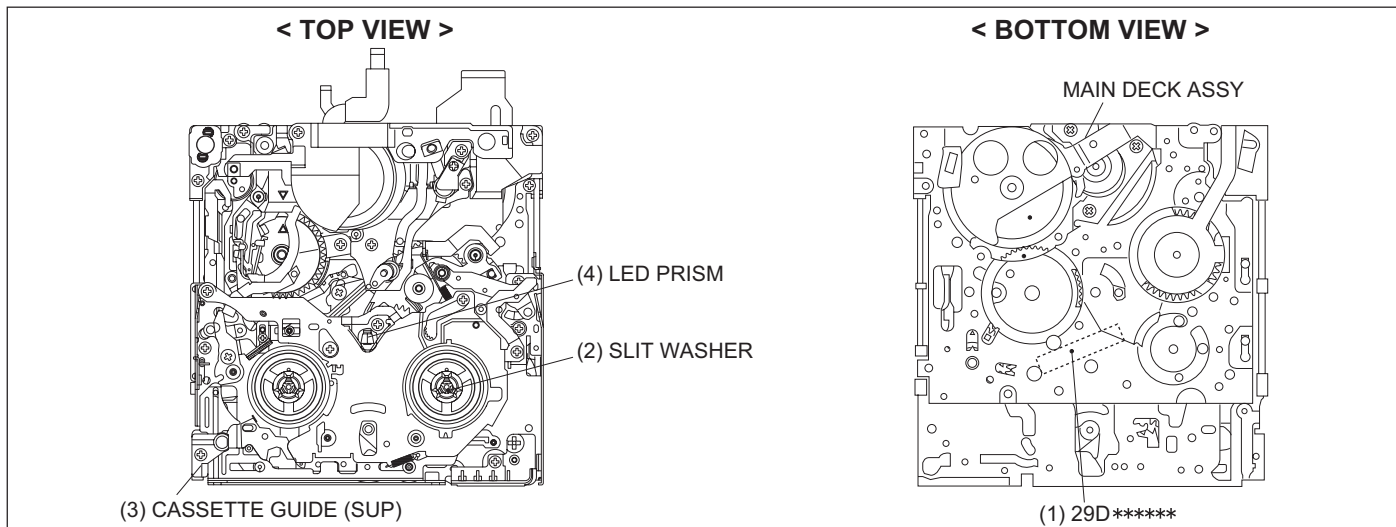
(3) See the color of the CASSETTE GUIDE(SUP).

Light-brown CASSETTE GUIDE(SUP) is used in the mechanism assembly with the symbol number of 400-499.

Black CASSETTE GUIDE(SUP) is used in the mechanism assembly with the symbol number of 900-999.

(4) See the shape of the LED PRISM. LED PRISM consists of only resin in the mechanism assembly with the symbol number of 400-499.

Upper part of the LED PRISM is covered with black metal in the mechanism assembly with the symbol number of 900-999.



Part Name	Symbol No.	Part No.	Part No.	Part No.	Symbol No.	Part No.	Patr No.
MECHA(A) ASSY	400	YMA0029C	YMA0029M	YMA0029L	900	YMA0029H	YMA0029E
MECHA(A) ASSY	-	-	-	-	900A	YMA0029D	-
CASSETTE HOUSING ASSY	401	LY31543-002E*	LY31543-002H	←	901	LY32870-001G*	LY32870-001J
MINI SCREW,X3	402	YQ43893-8	←	←	902	←	←
UPPER BASE ASSY	403	LY31542-001J	←	←	903	LYH30420-001A	←
MINI SCREW	404	YQ43893*	QYSPSPU1425M	←	904	←	←
DRUM ASSY	405	**	**	**	905	**	**
DAMP.SCREW ASSY,X2	406	LY42820-001A	←	←	906	←	←
DAMP.SCREW ASSY	407	LY42820-002A	←	←	907	←	←
REEL DISK ASSY (SUP)	408	LY31538-001B*	LY31538-001F	←	908	←	←
REEL DISK ASSY (TU)	409	LY31538-002B*	LY31538-002H	LY31538-002G	909	LY31538-002H	←
SLIT WASHER,X2 or X1	410	YQ44246,(x2)	←,(x2)	←,(x2)	910	←*,(x1)	←,(x2)
REEL COVER ASSY	411	LY10217-001A*	LY10217-001F	←	911	LY10372-001D	←
MINI SCREW	412	LY42120-001A*	LY42120-002A	←	912	←	←
MINI SCREW,X2	413	LY41945-003A	←	←	913	←	←
SLIT WASHER	414	YQ44246	←	←	914	←	←
TENSION ARM ASSY	415	LY42025-001C	←	←	915	LY43725-001D	←
SLANT POLE ARM ASSY	416	LY31535-001F	←	←	916	LYH40269-001A	←
TU ARM ASSY	417	LY42031-001G*	LY42031-001K	←	917	LY43731-001F	←
SWING ARM ASSY	418	LY31531-001D	←	←	918	←	←
MINI SCREW	419	YQ43893	←	←	919	←	←
SLIDE DECK FINAL ASSY	420	LY20530-003B*	LY20530-003E	←	920	LYH30424-001A	←

Part Name	Symbol No.	Part No.	Part No.	Part No.	Symbol No.	Part No.	Patr No.
MINI SCREW,X2	421	YQ43893	←	←	921	←	←
MINI SCREW	422	LY43023-001A	←	←	922	←	←
PAD ARM ASSY	424	LY31533-001E	←	←	924	LYH30419-001A	←
SLIT WASHER	425	YQ44246	←	←	925	←	←
TU BRAKE ASSY	428	LY42016-001B	←	←	928	LYH40270-001A	←
SLIT WASHER	429	YQ44246	←	←	929	←	←
TENSION CONTROL LEVER ASSY	430	LY41959-001B	←	←	930	LY43684-001A	←
CENTER GEAR	431	LY31525-001B	←	←	931	LY32861-001A	←
PINCH ROLLER ARM FINAL ASSY	432	LY31516-001E	←	LY31516-001F	932	←	←
SLIT WASHER	433	YQ44246	←	←	933	←	←
TENSION CONTROL PLATE ASSY	434	LY41956-001C	←	←	934	LY43681-001A	←
BRAKE CONTROL LEVER ASSY	435	LY41962-001B*	LY41962-001C	←	935	LY43687-001A	←
MOTOR BRACKET ASSY	436	LY20525-002C	←	←	936	LYH30421-001A	←
LOADING MOTOR	436A	QAR0138-001	←	←	936A	←	←
TAPPING SCREW,x2	436B	LY41940-001A	←	←	936B	←	←
MINI SCREW,x3	437	YQ43893	←	←	937	←	←
GUIDE RAIL ASSY	438	LY20528-001R*	LY20528-001U	←	938	LYH30422-001A	←
MINI SCREW	439	YQ43893	←	←	939	←	←
SLIT WASHER,X2	440	YQ44246	←	←	940	←	←
SLIDE LEVER2 ASSY	441	LY31498-001C	←	LY31498-001D	941	LY32843-001A	←
LOADING PLATE ASSY	442	LY41965-001A	←	←	942	LY43690-001A	←
SLIT WASHER	443	YQ44246	←	←	943	←	←
EJECT LEVER	444	LY31522-001B	←	←	944	LY32858-001A	←
SLIT WASHER	445	YQ44246	←	←	945	←	←
BASE R ASSY	446	LY41929-001E*	LY41929-001F	←	946	LYH40271-001A	←
MINI SCREW	447	YQ43893	←	←	947	←	←
MINI SCREW	448	LY41945-001B	←	←	948	←	←
MODE GEAR	449	LY41930-001A	←	←	949	LY43665-001A	←
ROTARY ENCODER	450	QSW0876-003	←	←	950	←	←
MINI SCREW,X2	451	YQ43893	←	←	951	←	←
GEAR COVER ASSY	452	LY31524-001A	←	←	952	LY32860-001A	←
MINI SCREW,X2	453	YQ43893	←	←	953	←	←
MINI SCREW	454	YQ43893-4	←	←	954	←	←
MAIN CAM ASSY	455	LY41948-001C	←	←	955	LY43676-001A	←
SLIDE ARM ASSY	456	LY41941-001B	←	←	956	←	←
CONNECT GEAR 2	457	LY41951-001B	←	←	957	LY43678-001A	←
SUB CAM ASSY	458	LY41954-001B	←	LY41954-001E	958	←	←
MINI SCREW	459	LY42120-001A	←	←	959	←	←
CONTROL ARM ASSY	460	LY41952-001A	←	←	960	LY43692-001A	←
REEL GEAR 1	461	LY31523-001B	←	←	961	LY32859-001A	←
DRUM BASE ASSY	462	LY31508-002A*	LY31508-002B	LY33372-001A	962	LY31508-002B	←
SCREW,X3	463	QYSPSPU1425M	←	←	963	←	←
CAPSTAN MOTOR	464	QAR0142-001	←	←	964	←	←
MINI SCREW	465	YQ43893	←	←	965	←	←
MAIN DECK ASSY	466	LY10210-001D*	LY10210-001G	←	966	LY10367-001D*	LY10367-001E
SLIT WASHER	476	YQ44246	←	←	976	←	←
SLIT WASHER	477	-	-	-	977	YQ44246-6	-
WASHER	478	-	-	-	978	LY42047-005A	←
SPACER	479	-*	LY43987-001B	←	979	←	←

NOTE:

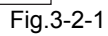
MARK ← is same as left.

MARK - is not used.

MARK * reference model was also changed.

MARK ** shows different parts number, depending on models.

3-4 (No.86700)



3.2.1 VHS-C MECHANISM ASSEMBLY PARTS LIST

- Since parts numbers described here are the numbers at the time of manual issue, they are subject to change without notice. Therefore, be sure to see a parts list in the service manual of each model as for parts numbers.

Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.	Part No.
MECHA(B) ASSY	400	YMA0033A-E	YMA0042A-E	YMA0034A-E	YMA0036A-E	YMA0040A-E
MAIN DECK ASSY	401	LY20612-001B	←	←	←	←
CASSETTE GUIDE (LEFT)	402	LY31817-001A	←	←	←	←
SW LEVER (LEFT)	403	LY31815-001A	←	←	←	←
TORSION SPRING	404	LY42581-001A	←	←	←	←
SCREW	405	LY42722-001A	←	←	←	←
CASSETTE GUIDE ASSY(RIGHT)	406	-	-	YQ44339A-7	←	←
SW.LEVER(RIGHT)	406A	-	-	YQ32162-1-3	←	←
TORSION SPRING	406B	-	-	YQ44340-1-4	←	←
SCREW	407	-	-	LY42819-001A	←	←
MOTOR BRACKET ASSY	408	LY31826-001A	←	←	←	←
WORM BRACKET	409	YQ20793	LY20951-001A	YQ20793	←	LY20951-001A
SCREW,X3	410	LY42722-001A	←	←	←	←
WHEEL GEAR	411	LY31925-001A	←	←	←	←
MIDDLE GEAR	412	LY42730-001A	←	←	←	←
CANCEL LEVER ASSY	413	LY42521-001A	←	←	←	←
SLIT WASHER,X2	414	LY42754-003A	←	←	←	←
CONTROL CAM	415	YQ20827-2-1	←	←	←	←
SLIT WASHER	416	PQM30017-25	←	←	←	←
LOADING GEAR(T)ASSY	417	LY42733-001A	←	←	←	←
SLIT WASHER	418	LY42754-003A	←	←	←	←
LOADING GEAR(S)ASSY	419	LY42732-001A	←	←	←	←
SLIT WASHER	420	LY42754-003A	←	←	←	←
COVER PLATE	421	LY42403-001A	←	←	←	←
LOADING RING ASSY	422	LY42452-001A	←	←	←	←
SCREW,X4	423	LY42728-001A	←	←	←	←
GUIDE RAIL	424	LY10239-001A	←	←	←	←
SCREW,X8 or X7	425	LY42728-001A,(X8)	←,(X7)	←,(X8)	←,(X8)	←,(X7)
POLE BASE(S)ASSY	426	LY30161-001B	←	←	←	←
POLE BASE(T)ASSY	427	LY30162-002A	←	←	←	←
DRIVE LEVER ASSY	428	LY42523-001A	←	←	←	←
SLANT ARM ASSY	429	LY42545-001B	LY44000-001B	LY42545-001B	←	LY44000-001B
TORSION SPRING(S)	429A	LY42547-001A	LY43992-001A	LY42547-001A	←	LY43992-001A
SLIT WASHER	430	LY42754-003A	←	←	←	←
ROLLER BASE ASSY	431	LY42739-003A	←	←	←	←
SCREW	432	LY42722-001A	←	←	←	←
LINK ARM ASSY	433	LY42494-001A	←	←	←	←
SLIT WASHER	434	PQM30017-25	←	←	←	←
PINCH ROLLER ARM ASSY	435	LY40018-002A	←	←	LY40018-005A	←
SLIT WASHER	436	PQM30017-25	←	←	←	←
TAKE UP GUIDE ARM ASSY	437	LY42541-001B	←	←	←	←
SLIT WASHER	438	LY42754-003A	←	←	←	←
TENSION ARM ASSY	439	LY42571-001A	←	←	←	←
TENSION SPRING	439A	LY42669-001A	←	←	←	←
SLIT WASHER	440	LY42754-003A	←	←	←	←
MOTOR BASE	441	YQ20797-1-5	←	←	←	←
SCREW,X2	442	LY42722-001A	←	←	←	←
SCREW	443	YQ44460	←	←	←	←
CAPSTAN MOTOR	444	QAR0212-001	QAR0212-002	QAR0212-001	QAR0212-002	←
TAPPING SCREW,X3	445	YQ44304	←	←	←	←
SLANT POLE BASE ASSY	446	LY42731-001A	←	←	←	←
TAPPING SCREW	447	YQ44304	←	←	←	←
TIMING BELT	448	YQ43710-2	←	←	←	←
CENTER PULLEY UNIT	449	LY42678-001A	←	←	←	LY42678-003A

Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.	Part No.
SCREW,X2	450	LY42722-002A	←	←	←	←
SUPPLY CLUTCH ASSY	451	LY42670-001A	←	←	←	←
SLIT WASHER	452	LY42754-003A	←	←	←	←
REEL DISC	453	YQ31861-1-7	←	←	←	←
WASHER	454	LY42755-001A	←	←	←	←
TAKE UP GEAR	455	LY31924-001A	←	←	←	←
BRAKE SUB GEAR	456	LY42738-001A	←	←	←	←
SLIT WASHER,X3	457	LY42754-003A	←	←	←	←
A/C HEAD UNIT	458	LY42544-001B	LY42544-002A	LY42544-001B	←	LY42544-002A
SCREW,X2	459	SPSN1750Z	←	←	←	←
EJECT LEVER ASSY	460	LY42517-001A	←	←	←	←
SLIT WASHER	461	LY42754-003A	←	←	←	←
LED GUIDE	462	YQ31833-1-1	←	←	←	←
SCREW	463	LY42722-001A	←	←	←	←
DRUM SPACER	464	LY42729-001A	←	←	←	←
SCREW,X2	465	LY42722-001A	←	←	←	←
ROTARY ENCODER	466	QSW0888-001	←	QSW0888-002	←	←
SCREW,X4	467	LY42722-002A	←	←	←	←
LINK LEVER	468	LY31814-001A	←	←	←	←
DRUM FINAL ASSY	469	**	**	**	**	**
CATCHER	469A	YDM1003-1-5	←	←	←	←
SCREW,X2	469B	QYSPSPU1735M	←	←	←	←
SCREW,X2	470	LY42722-001A	←	←	←	←
SCREW,X2	471	SPSH1740Z	←	←	←	←
BRUSH	472	LY43542-001A	←	←	←	←
SCREW	473	LY42722-003A	←	←	←	←
CASSETTE HOUSING FINAL ASSY	*155/481	LY31808-001C	LY31808-002C	LY31808-001C	LY31808-001D	LY31808-002C
SCREW,X4	*156/482	LY42722-003A	←	←	←	←
BRACKET(MECHA)	*161/484	LY32326-001A	←	←	←	←
SCREW,X2	*162/485	LY42722-003A	←	←	←	←
SIDE BRACKET L	*164/487	LY31807-001A	←	←	←	←
SCREW	*165/488	LY42722-003A	←	←	←	←

NOTE:

MARK ← is same as left.

MARK - is not used.

MARK * are shown in the parts list of FINAL ASSY of service manual of each model.

MARK ** shows different parts number, depending on models.

3.3 VHS MECHANISM ASSEMBLY

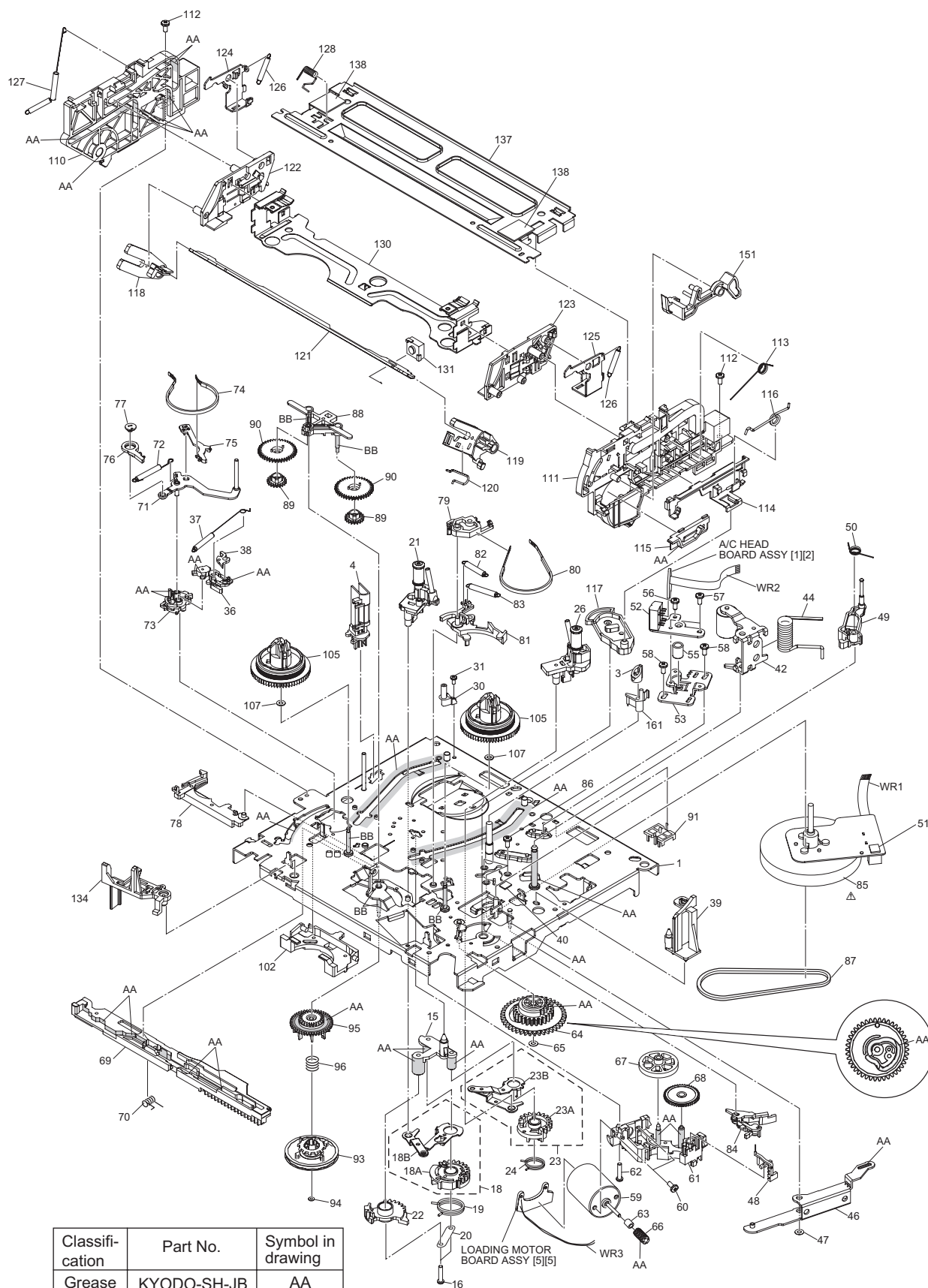


Fig.3-3-1

3.3.1 VHS MECHANISM ASSEMBLY PARTS LIST

- Since parts numbers described here are the numbers at the time of manual issue, they are subject to change without notice. Therefore, be sure to see a parts list in the service manual of each model as for parts numbers.

System		VHS		S-VHS	
**Job No.		V15D Series	V16D Series	V15S Series	V16S Series
Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.
MAIN DECK ASSY	1	LP21039-001N	LP21039-001S	LP21039-001R	LP21039-001S
GUIDE POLE CAP	3	LP40097-002D	←	←	←
FULL ERASE HEAD	4	QAH0082-001	←	←	←
LOAD.GEAR BASE	15	LP30958-001B	←	←	←
SCREW,X2	16	QYTPST2620Z	←	←	←
LORD.GEAR(SUPPLY) ASSY	18	LP40798-001A	←	←	←
LORD.GEAR(SUPPLY)	18A	LP21040-001A	←	←	←
LORD.ARM(SUPPLY) ASSY	18B	LP40799-001A	←	←	←
TORSION SPRING(SUPPLY)	19	LP40837-001A	←	←	←
FIXING PLATE	20	LP40903-001A	←	←	←
POLE BASE ASSY(SUPPLY)	21	LP40806-001D	←	←	←
LOAD GEAR	22	LP30959-002A	←	←	←
LORD. GEAR(TAKE UP) ASSY	23	LP40802-001B	LP40802-001C	LP40802-001B	LP40802-001C
LORD. GEAR(TAKE UP)	23A	LP21041-001B	LP21041-001C	LP21041-001B	LP21041-001C
LORD.ARM(TAKE UP) ASSY	23B	LP40803-001A	←	←	←
TORSION SPRING(TAKE UP)	24	LP40838-001A	←	←	←
POLE BASE ASSY(TAKE UP)	26	LP40808-001F	LP40808-001E	←	←
ARM BASE	30	-	←	LP31020-004A	←
SCREW	31	-	←	QYTDST2606Z	-
TU LEVER	36	LP21055-001E	←	←	←
TENSION SPRING	37	LP40943-001A	←	←	←
T-UP HEAD	38	LP40859-001D	←	←	←
LID GUIDE	39	LP30961-001C	←	←	←
SPACER	40	LP30002-0B7A	←	←	-
PINCH ROLLER ARM ASSY	42	LP40810-001A	←	←	←
TORSION SPRING	44	LP40840-001C	LP40840-001D	←	←
PRESS LEVER	46	LP30963-001B	←	←	←
SLIT WASHER	47	PQM30017-24	←	←	←
S-SWITCH	48	-	←	LP40930-002E	←
GIDE ARM ASSY	49	LP40813-001D	←	←	←
TORSION SPRING	50	LP40841-001A	←	←	←
SPACER	51	LP30002-090A	←	←	-
A/C HEAD	52	QAH0081-001	←	←	←
HEAD BASE	53	LP30965-001A	←	←	←
COMPRESSION SPRING	55	LP40842-001A	LP40842-001D	LP40842-001A	LP40842-001D
SCREWX1 A/C HEAD	*56	QYTDST2006M	←	←	←
A/C HEAD SCREW,X2	*57	LP41036-001A	←	←	←
SCREW,X2 A/C HEAD	*58	QYTDST2606Z	←	←	←
LOADING MOTOR	59	QAR0023-001	←	←	←
SCREW,X2	60	QYTPSP3003Z	←	←	←
MOTOR BRACKET	61	LP21056-002F	LP21056-002G	←	←
TAP SCREW	62	QYTPST2620Z	←	←	←
WORM BEARING	63	LP40814-001B	←	←	←
CONTROL CAM	64	LP21044-001D	←	←	←
SLIT WASHER	65	PQM30017-24	←	←	←
WORM GEAR	66	LP40815-001A	←	←	←
HELICAL GEAR	67	LP40816-001B	←	←	←
CONNECT GEAR	68	LP40817-001A	←	←	←

System		VHS		S-VHS	
**Job No.		V15D Series	V16D Series	V15S Series	V16S Series
Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.
CONTROL PLATE	69	LP10400-001H	←	←	LP10400-001J
TORTION SPRING	70	LP40843-001A	←	←	←
TENSION ARM ASSY	71	LP40818-001B	←	←	←
TENSION SPRING	72	LP40844-001C	LP40844-001E	LP40844-001D	LP40844-001E
TENSION ARM BASE	73	LP21045-001D	←	←	←
TENSION BAND ASSY	74	LP40821-001A	←	←	←
BAND HOLDER-1	75	LP30967-001B	←	←	←
BAND HOLDER-2	76	LP30968-001C	←	←	←
ADJUST PIN	77	LP40822-002B	←	←	←
TENSION ARM LEVER	78	LP31000-005E	←	←	←
MAIN BRAKE(TAKE UP)	79	LP21046-001C	←	←	←
BAND BRAKE ASSY	80	LP40824-001A	←	←	←
BRAKE LEVER	81	LP30969-002A	LP30969-002B	LP30969-002A	LP30969-002B
TENSION SPRING	82	LP30003-033B	←	←	←
TENSION SPRING	83	LP30003-035B	←	←	←
CAPSTAN BRAKE ASSY	84	LP40825-001B	←	←	←
CAPSTAN MOTOR	85	QAR0204-002	←	←	←
SCREW,X3 CAPSTAN MOTOR	86	QYTPSG2606M	QYTPSG2606Z	QYTPSG2606M	QYTPSG2606Z
BELTCAPSTAN MOTOR	87	LP30005-010A	←	←	←
IDLER ARM	88	LP30970-001A	←	←	←
IDLER GEAR 1,X2	89	LP40828-004A	←	←	←
IDLER GEAR 2,X2	90	LP40829-001B	LP40829-002A	LP40829-001B	LP40829-002A
WIRE HOLDER	91	LP31014-001A	←	←	←
CLUTCH UNIT	93	LP40934-001B	←	←	←
SLIT WASHER	94	PQM30017-47	←	←	←
DIRECT GEAR	95	LP30973-001A	←	←	←
COMPRESS. SPRING	96	LP40939-001A	←	←	←
CHANGE LEVER	102	LP30974-001B	←	←	←
REEL DISK,X2	105	LP21049-001A	←	←	←
SPACER,X2	107	LP30017-004A	←	←	←
SIDE FRAME(L)	110	LP10401-001F	LP10401-001H	LP10401-001F	LP10401-001H
SIDE FRAME(R)	111	LP10402-001F	LP10402-001K	LP10402-001G	LP10402-001K
SCREW,X2	112	QYTDST2606Z	←	←	←
TORSION SPRING	113	LP40917-001C	LP40917-001D	←	←
SIDE PLATE	114	LP30976-001D	LP30976-001E	←	←
LIMIT PLATE	115	LP30977-002D	←	←	←
LIMIT SPRING	116	LP40846-001C	←	←	←
DRIVE LEVER	117	LP31100-001B	←	←	←
DRIVE ARM(L)	118	LP30978-001B	←	←	←
DRIVE ARM(R)	119	LP30979-001H	LP30979-001N	LP30979-001H	LP30979-001N
TORSION SPRING	120	LP40847-001B	←	←	←
CONNECT PLATE	121	LP30980-001A	LP30980-001E	LP30980-001B	LP30980-001E
SIDE HOLDER(L)	122	LP10403-001C	←	←	←
SIDE HOLDER(R)	123	LP10404-001D	LP10404-001E	←	←
LOCK LEVER(L)	124	LP30983-001A	LP30983-001B	LP30983-001A	LP30983-001B
LOCK LEVER(R)	125	LP30984-001A	LP30984-001B	LP30984-001A	LP30984-001B
TENSION SPRING,X2	126	LP40924-001C	LP40924-001D	←	←
EARTH SPRING(1)	127	LP40856-001A	←	LP40856-001B	LP40972-001A
EARTH SPRING(2)	128	LP40857-001B	←	←	←
C.HOLDER ASSY	130	LP30981-001E	LP30981-001G	LP30981-001F	LP30981-001G
C.H STOPPER	131	LP31135-001A	-	LP31135-001A	-

System		VHS		S-VHS	
**Job No.		V15D Series	V16D Series	V15S Series	V16S Series
Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.
R.SAFETY LEVER	134	LP21051-002C	←	←	←
TOP FRAME	137	LP21052-001F	LP21052-001J	LP21052-001H	LP21052-001J
SPACER	138	LP30002-0A7A	-	LP30002-0A7A	-
DOOR OPENER	151	LP30985-001G	←	←	←
TAPE GUIDE	161	-	LP40993-001A	-	LP40993-001A
E-CARD WIRE DRUM.M	WR1	WJT0059-001C	WJT0059-001E	WJT0059-001D	WJT0059-001E
E-CARD WIRE AC HEAD CN2001	WR2	WJT0067-001B	←	←	←
E-FL/RB WIRE LOADING MOTOR	WR3	WJS0022-001A	←	←	←
MEMO	-	PMD0035B-C	PMD0040A-C	PMD0036B-C /PMD0039A-C	PMD0037A-C /PMD0041A-C

NOTE:

MARK ← is same as left.

MARK - is not used.

MARK * shows that Symbol No. and Parts No. may sometimes be different from those in each manual. See the table below for final Symbol No. and Parts No.

MARK ** is Job No.

To identify a model, see the Job No. of the model.

Job No. is shown just above the service manual number at the lower right of the service manual of each model.